POLICING PRIORITIES IN LONDON: DO BOROUGH CHARACTERISTICS MAKE A DIFFERENCE?

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DECLARATION

I declare that this thesis is of my own composition, based on my own work, with acknowledgement of other sources, and has not been submitted for any other degree or professional qualification.

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ABSTRACT

Much current discourse around policing in the UK stresses the need for a partnership between the police and public and, in particular, the need for the police to be responsive to the concerns of local communities. It is argued that appearing responsive to local needs, and showing a willingness to consult the public in the process of decision making, is likely to increase support for the police. Despite this, detailed analysis of the public's preferences for policing remains relatively sparse. This thesis uses data from the 2003-04 Metropolitan Police's Public Attitude Survey (PAS) to consider whether survey data can provide a useful indication of a respondent's preferences, and how these preferences may vary depending on the characteristics of respondents and the boroughs in which they live.

This thesis argues that rather than simply considering some overall measure of the level of policing individuals would like to see, or investigating attitudes towards different functions of the police individually, a more interesting and complete view of preferences for policing can be developed by looking at the mix of policing that individuals best believe will meet their needs. Additionally, it will be shown that differences in respondents' preferences can be related to both the characteristics of individuals and the nature of the boroughs in which they live. It will be suggested that some of these relationships provide evidence that respondents favour a mix of policing they believe will protect them from perceived threats and reflect their perception of the police's role within society.

In addition, this thesis provides an example of how the techniques of Factor Analysis and Latent Class Analysis can provide greater insight into the data collected in large scale surveys. It is suggested that responses provided to different questions are often related and may represent a more general underlying attitude held by the respondent. It is also argued that using techniques which can handle multilevel data will provide greater explanatory depth by suggesting how a respondent's attitude may be influenced by the context in which they live.

The analysis presented offers new insights into the public's priorities for policing and demonstrates the worth of the statistical methods employed. However it is, to some extent, limited by the form of the questions within the PAS dataset and by the lack of information about the thought process underlying a respondent's answers. These concerns will be discussed, along with suggestions for future research.

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ACORN	A Classification Of Residential Neighbourhoods
ABIC	Adjusted Bayesian Information Criterion
AIC	Akaike Information Criterion
BCS	British Crime Survey
BIC	Bayesian Information Criterion
BLR	Bootstrap Log-likelihood Ratio Test
BOCU	Borough Operational Command Unit
CDRP	Crime and Disorder Reduction Partnerships
CFA	Confirmatory Factor Analysis
EFA	Exploratory Factor Analysis
EM	Expectation-Maximization (Algorithm)
ICC	Interclass Correlation
IMD	Index of Multiple Deprivation
LCA	Latent Class Analysis
LMR	Lo-Mundell-Rubin Test
MPA	Metropolitan Police Authority
ODPM	Office of the Deputy Prime Minister
OLS	Ordinary Least Squared (Regression)
PAS	Public Attitude Survey (conducted by Metropolitan Police)
PSI	Policy Studies Institute
UK	United Kingdom
WLS	Weighted Least Squared (Estimation)

MAP OF THE AREA SERVED BY THE METROPOLITAN POLICE

The Metropolitan Police serves 32 London boroughs.
The City of London has a separate police service.

Based on http://www.cityoflondon.gov.uk/Corporation/maps/london_map.htm [cited 21/09/2008]

CHAPTER 1: INTRODUCTION

> *"We will also improve the way the police deal with the public by embedding a genuinely responsive customer service culture and making the police more accessible, visible and accountable." (David Blunkett, Home Secretary, 2004)*

Much current discourse around policing in the UK - for instance the recent Flanagan Report on the future of policing in England and Wales (2008, pp79-84) - stresses the need for a partnership between the police and public, with the police demonstrating responsiveness to the concerns of local communities. This wish to see the police respond to local issues can be seen as part of a wider interaction with the ideas of community policing which has developed across liberal democracies over the last quarter of a century (McLaughlin and Murji, 2001, Wright, 2002, pp143-148). For police forces to function effectively, it is essential that they develop close ties with the local population and community organisations. It is expected that the development of such relationships will increase public support for, and acceptance of, the police. This in turn will increase the willingness of the public to assist the police, for example through reporting crimes or coming forward as witnesses (Tyler, 2004 and Flanagan, 2008). While community policing involves many activities, such as increasing the familiarity of the public with local police officers and increasing the presence of the police within a community, there is now a growing belief that ensuring the police respond quickly to the concerns of local people is a key issue in making their work seem relevant. This expectation that support for a large-scale public institution can be achieved by showing its relevance to the needs of the individuals it serves reflects the emphasis on responding to "consumer demand" which has underpinned many of the reforms to the public sector in the UK over the last 20 years (Farnsworth and Holden, 2006 and Jordan, 2006).

Despite this increased concern about what the public would like to see the police doing, much of the current research in this area is either essentially descriptive (as summarised in Roberts and Hough, 2005, pp54-55) or encompasses only basic

analysis aimed at identifying which groups within a population see particular issues as a priority. There is little discussion of the possible causal mechanisms which may explain the patterns identified (Frank et al, 2005). A more complete understanding of why particular groups within society value particular types of policing could be expected to aid the police in developing stronger relationships with the communities they serve. These relationships should, in turn, increase community support for the work of the police. Additionally, most research which has investigated whether different people hold different preferences towards policing has concentrated on the characteristics of the individuals who were questioned without considering the social context in which they live. Given that contact with the police is, for most people, a rare event it seems probable that most people will draw on cues from their everyday experience of living in particular neighbourhoods, with particular problems, when forming expectations of how the police should operate. The lack of attention so far paid to the impact of neighbourhood characteristics on individuals' preferences for policing may therefore be seen as a deficiency of existing research.

The major objective of this thesis is to explore how neighbourhood characteristics may influence preferences for policing, providing a more informed basis for the police to understand the concerns of different communities. The data on which this thesis is based comes from the Metropolitan Police Public Attitude Survey, a survey of approximately 7,300 individuals in London. This dataset provides information on respondents' preferences for policing across London as a whole and within their local area.

Variations in an individual's preferences for policing are related to both the characteristics of the respondent and the London borough in which they live. It will be argued that some of this variation can be attributed to how individuals will favour the police undertaking those tasks which they believe will offer them the greatest personal benefit.

1.1 Introduction to Community Policing

Despite being a cornerstone of much of the discussion about policing over the last 25 years, community policing is not a concept which has a widely accepted unified definition. The development of thinking about community policing is commonly associated with the work of John Alderson (1979 and 1998). He argues that the approach is concerned with the development of a relationship between the police and the public aimed at preventing crime, reducing fear of crime and reinforcing trust in local neighbourhoods (summarised in Newburn, 2003, p73). Running throughout the discussions of community policing is the notion that, if the police are to successfully achieve their aims of maintaining public order, preventing crime and arresting offenders, then they will need to work together with other organisations and the general public. It is also argued that the devolution of decision-making to a local level is a key feature of community policing as it increases the ability of the police to tailor their activities to local needs. However, it is widely accepted that the adoption of more local decision-making must be accompanied by the police showing themselves to be interested in and responsive to the issues facing local people. As Friedmann argues,

> "Community policing is a policy and a strategy aimed at achieving more effective and efficient crime control, reduced fear of crime, improved quality of life, improved police services and police legitimacy, through a proactive reliance on community resources that seeks to change crime causing conditions. *This assumes a need for greater accountability of police, greater public share in decision making, and greater concern for civil rights and liberties."*
>
> (Friedmann, 1992, p4, emphasis added)

Similarly, Alderson writes that,

> "The public, *perceiving that the police care for and respect their own group and culture*, are encouraged to – and if given information and trust will – help the police to achieve their goals."
>
> (Alderson, 1998, p132, emphasis added)

This need for the police to show that they are responsive to local wishes has led to an increase in interest in how the public would like to see the police operate. Not only is matching police services more closely to the wishes of the local community likely to increase public support for the police but, as Salmi et al, (2005, p189) argue,

> "Assessing the views of the public concerning specific policing activities and the needs for those activities is a good starting point to implement the more complex forms of co-operation between the public and the police that are required in community policing."

1.2 Policy Background (Community Policing in England and London)

While Newburn (2003, p73) suggests that few of the community policing initiatives adopted in the UK during the 1980s can show any concrete evidence of success, there is little doubt that the period saw an increase in the prevalence of community-based thinking within policing, for instance the development of Neighbourhood Watch schemes and locally focussed patrolling. This increased concern with crime prevention and increased interaction between the police and local residents also appears to have been reflected in the general direction of policing policy in England and Wales, with the Home Office showing increased interest in crime prevention initiatives in the mid-1980s (Newburn, 2003, p74).

Since the 1990s there has been an increased effort to establish clear lines of local accountability for policing. Notably the 1998 Crime and Disorder Act saw the

formulation of evaluations by HM Inspectorate of Constabulary and the publication of crime figures at Basic Command Unit level rather than at police force level. These attempts to increase accountability were accompanied by an increased push for local policing (with local decision making) to become the focus of crime prevention policy (for instance, the 2001 Audit Commission paper "Best Foot Forward").

At the same time as support was growing for the idea that locally organised policing could provide an effective model for dealing with crime, policing also appears to have become subject to the increased wish within central government to apply private sector, consumer driven, thinking to the provision of public services. Hence there has been a growth in the view that the police should undertake wider consultation with the public to establish which priorities are most important within an area, and an expectation that these consultations will be a key information source for the shaping of locally developed policing objectives. This thinking can be seen in the 2004 Home Office White Paper "Building Communities, Beating Crime", which argued that police forces needed to employ rigorous approaches to investigating the public's view of policing priorities rather than relying on longstanding arrangements such as public meetings which did not provide a representative view of public opinion (Home Office, 2004, pp63-64). In an echo of one of the main points of the community policing philosophy, the White Paper states,

> "Forging a new relationship between the police and the public – in which there is active collaboration between the police, their partners and citizens in the delivery of policing services – is the underlying principle on which our proposals are based. We recognise that effective policing will only be sustained over the long term when it is citizen-focused – responsive to people's needs and performed as a shared undertaking with the active involvement of the public."
>
> (Home Office, 2004, p47)

This rhetoric persists in ongoing political discussions around policing. For instance, in her open letter responding to the report of Sir Ronnie Flanagan, Home Secretary Jacqui Smith wrote,

> "…I also announced plans to introduce a new policing pledge to set national consistent standards on what people can expect from the police service. This could include, for example, national standards on how long it will take to answer calls, how a member of the public will be treated and supported as a victim, how long it will take to respond to non-emergency problems and how and when local crime information will be provided. This will, of course, be underpinned in each area by a set of local priorities, agreed by people in each neighbourhood. The pledge will be introduced everywhere later this year. It also gave me enormous pleasure that day to confirm that every neighbourhood now has its own dedicated neighbourhood policing team contactable by phone or meeting — a tremendous achievement for the police service, central government and police authorities. It is one of those developments in policing that one knows will mark a watershed."
>
> (2008, point 16)

The suggestion that policing should involve locally managed units, addressing issues affecting local communities, has been reflected in the policy of the Metropolitan Police. For example, their strategic document, "Towards the Safest City – Delivering Policing for Londoners 2003-2005", stated,

> "We will deliver a programme of change in the way we deliver policing to London that reflects the principles of public sector reform - identifying and implementing first those elements we consider to be of greatest value to Londoners.
>
> To achieve this we will:
>
> • Focus on meeting the needs of citizens, delivering services locally where beneficial and ensuring clear lines of accountability for the results.

• Devolve additional responsibility and decision-making to Borough Operational Command Units (BOCUs).

• Realign the organisation to support fully BOCUs as the primary unit of policing (including the development of a 'bottom-up' planning regime).

• Become more responsive to people's needs regarding the services they receive and how those services are provided."

(Metropolitan Police, 2003, p20)

This growth of community policing within the Metropolitan Police was continued through the development of the Safer Neighbourhoods Initiative. By April 2007, this programme had established a separate group of dedicated locally based police officers in each of the 624 electoral wards covered by the force. They state that,

"[These groups of officers] are dedicated to the needs of each specific neighbourhood, with the policing priorities for that area decided in partnership with local stakeholders - the public, Crime and Disorder Reduction Partnerships (CDRPs), local authorities and other local organisations."

(Metropolitan Police Safer Neighbourhoods Website, accessed 20/01/2006).

This increased wish to match policing services to local needs has seen further development of the Metropolitan Police's interest in the use of public opinion surveys to guide policing policy, with their long-running Public Attitude Survey being adapted with the aim of evaluating the Safer Neighbourhoods programme.

While the Safer Neighbourhood Initiative represents the Metropolitan Police's latest attempt to implement the ideas of community policing, concern about police-community relations is not new. Attempts to improve the relationships between the police and the communities they serve provide a major explanation for the changes which have occurred in the Metropolitan Police over the last half a century. During

this time, the force has found itself at the centre of several incidents which have highlighted the need for the police to be aware of, and responsive to, the concerns and needs of the communities they serve. These events have often been accompanied by specific attempts to introduce community policing initiatives aimed at improving public co-operation with the police. Although the Metropolitan Police's responses to these incidents have involved attempts to improve relationships with all the sections of London society, the incidents themselves have often involved the police's relationship with members of the ethnic minorities. For instance, the prominent report of Smith (1983) into the relationship between the public and Metropolitan police (discussed further in the next chapter) was conducted against the backdrop of the controversial investigation in to the Deptford Fire and the Brixton Riots of April 1981 (for more details see Henry 2007 pp7-9).

Evidence of growing tensions between the Metropolitan police and minority groups first became apparent in the late 1950s and early 1960s. For instance, relationships between the Metropolitan Police and members of the African-Caribbean community worsened following the race riots in Notting Hill in 1958. However, it is the Brixton Riots of 1981 which are often seen as a seminal event in discussions around the conduct of the police, and police-community relations, both across London and in policing more generally. Occurring over the weekend of the 11th and 12th of April 1981, the Brixton Riots represent one of the largest example of public disorder over the last half a century. Over the course of the weekend in excess of 320 people were injured (of which nearly 280 were police officers), over 100 vehicles were set alight and nearly 150 building damaged. In the weeks leading up to the riot, the Metropolitan Police had attempted to address street crime through the saturation use of stop and search. It was widely perceived that these tactics were unfairly focussed on members of the ethnic minority communities (see Reiner, 2000, pp204-205) and Scarman (1981, pp56-58), and this served to further stretch already strained relations beyond breaking point, triggering public disorder.

The Brixton Riots were followed by further riots both within London (Southall) and in other cities across the UK (Toxteth in Liverpool, Moss Side in Manchester and in Birmingham). The riots of the summer of 1981 saw increased media attention and political discussion of police-public relations. In response to these concerns the Home Secretary (William Whitelaw) commissioned Lord Scarman to hold an inquiry into the causes of the disorder and how they were policed. Amongst the major conclusions of his report (published on 25th November 1981) was that the breakdown in support for the police amongst members of minority groups and the police's attitudes and behaviour towards these groups were major contributory factors which ignited the disorder.

The conclusions of Lord Scarman, and the report of Smith et al (published in November 1983) were reflected in the attempts of Sir Kenneth Newman (who became Commissioner of the Metropolitan Police in October 1983) to begin a "quiet revolution" aimed at increasing the focus on community policing within the Metropolitan Police. Notable amongst these reforms were new mechanisms to allow for greater public input into policing policy, and improving consultation with local communities. Although there was resistance amongst some rank and file officers to Newman's reform, his focus on responsiveness to the public, a wish for a service focused ethos within the police, and a wish to consider a broad definition of policing which moved beyond a simple concern with law and order can be seen as influencing the thinking of many senior police officers over the following years (Henry, 2007, p10).

Throughout the rest of the 1980s and early 1990s a series of incidents continued to highlight the importance of public support for successful policing, and suggested that the extent of this support was heavily influenced by how the police are perceived to have behaved. While several of these incidents occurred outside the Metropolitan Police (for instance the policing of the miners strikes in 1984-85 and the uncovering of miscarriages of justice inclusing the Birmingham Six and Maguire Seven) others, such as, rioting in Brixton, Toxteth and Peckham in 1985, the shooting of Cherry

Grace and the wrongful conviction of Winston Silcott (for the shooting of PC Keith Blakelock at Broadwater Farm) continued to keep the nature of policing in London and the relationship between minority groups and the Metropolitan Police at the centre of discussions around community policing in the UK.

Twelve years after the Brixton Riots, the 1993 murder of Stephen Lawrence and subsequent Macpherson Inquiry (conducted in 1999) provided another major catalyst for discussion about the relationship between the Metropolitan Police and the people of London. Much of the media coverage following the publication of the Macpherson report focussed on the conclusion that the Metropolitan Police was "institutionally racist". While this conclusion has provided a key driver for policing reform throughout the UK over the last decade (see Foster et al, 2005), the fallout from the Macpherson Report has several other implications which were directly relevant to police-community relations in London. Macpherson argued that there had been failings in the leadership of the Metropolitan Police, that mistakes had been made made during the initial investigation in to the murder, and that the police officers who first arrived at the murder scene had failed to provide first aid to Stephen Lawrence. It was also noted that several recommendations from the Scarman Report had not been implemented. The widespread public, political and media discussion of these conclusions is widely seen to have influenced perceptions of the police both within London and within the UK more generally. Attempts to respond to the likely negative impact of this attention can be seen as one explanation for many of the Metropolitan Police's recent community policing initiatives (outlined above).

Discussion of the events around the death of Stephen Lawrence continues to appear in the media (for instance, the 2006 BBC Panorama documentary into possible corruption amongst the officers involved in the initial investigation), and along with high profile events involving the Metropolitan Police (such as the 2005 London Bombings, subsequent shooting of Jean Charles de Menezes, and the controversial handling of protests at the 2009 G20 summit) have served to ensure that the

Metropolitan Police remains the focus of much debate around the role of policing and the polices relationship with the public within the UK.

Beyond specific initiatives aimed at improving police-community relations, it is also argue that the need to increase public accountability in order to try and improve the perception of the force amongst the public, as an explanation for more general changes to the structure of the Metropolitan Police over recent years. Examples of these structural changes include the creation of the Metropolitan Police Authority (which is now the major strategic decision making body for the police in London, and includes elected politicians alongside independent members elected due to their relevant knowledge and links with specific communities) in 2000, and the integration of the Metropolitan Police within the remit of Her Majesties Inspectorate of Constabulary during the late 1980s and early 1990s (previously the Metropolitan Police had been inspected by a separate service distinct from the rest of policing within the UK).

1.3 Aims and Objectives

As already noted, the major objective of this thesis is to explore how the characteristics of a locality may be related to preferences for policing. It is possible to identify several intermediate steps which will be completed while answering this question:-

- Review the existing work on the public's preferences for policing.
- Consider what form of dependent variable best captures an individual's priorities for policing.
- Show which individual and neighbourhood level factors provide the strongest statistical account of why given individuals favour a particular mix of policing services.

- Discuss whether the results of the statistical analysis illustrate that neighbourhood context plays an important role in shaping an individuals' preferences for policing.

1.4 Overview of Methods

The analysis presented in this thesis will be based on secondary analysis of the Metropolitan Police's 2003-04 Public Attitude Survey. This dataset is well suited to this research. It involves a much larger sample than could reasonably be achieved if an original survey was conducted within the restrictions of doctoral research. While containing a wide range of general demographic questions, the majority of topics covered by the survey are directly relevant to the topic of this research (even more so than generic criminology surveys such as the British Crime Survey). In particular, it provides considerable flexibility for developing an appropriate measure of the mix of policing services favoured by different respondents. Finally, the dataset contains very accurate geographical references for all respondents. This provides an excellent opportunity for investigating the impact of respondents' neighbourhoods on their opinions, as the answers provided to the questionnaire can easily be integrated with other data sources, such as the UK census, to provide indicators of the social context within which respondents live.

This thesis will employ two main statistical techniques, which until recent years have seen limited use in the social sciences. The technique of latent class analysis will be used to identify groups of respondents who favour a particular mix of policing. While different in its underlying assumptions, latent class analysis may be considered similar to the method of cluster analysis widely used in social research over the last 30 years. The key difference between the methods is that while traditional cluster analysis is suitable for classifying cases based on normally distributed continuous indicators, latent class analysis has less strict assumptions and can be applied to categorical data which are more often present in social survey datasets.

Much existing work on how neighbourhood level factors influence public opinion has been based on aggregate level analysis. Such analysis involves averaging together data from respondents who live in a given area (for instance, in an analysis such as this, working out the percentages of respondents in each borough who favour a particular mix of policing) and then using correlation or regression methods to relate these aggregate measures to the characteristics of the different areas. Such an analysis can provide some indication of how preferences for policing might vary depending on the nature of the area concerned, and, for this reason, this approach is one of those employed in this research. However, it is critical to note that research based exclusively on such an approach would no longer be concerned with the impact of area level differences on the attitude of individuals, but would be concerned with explaining differences in aggregate preferences between areas. Therefore, statements about the preferences of individuals could suffer from the "ecological fallacy" (Robinson, 1950) and provide misleading conclusions. Also, by aggregating data to a borough level, any heterogeneity at the individual level will be lost, rendering it impossible to make statements concerning the extent to which any differences observed are attributable to genuine differences between areas or are merely a function of the fact that particular individuals (who share common characteristics) live in a particular area.

To address these issues, the second major statistical technique used in this thesis will be multilevel modelling (discussed in Snijders and Boskers, 1999). Multilevel modelling allows for the inclusion of explanatory factors relating to both the individuals who have completed the survey and the areas in which respondents live. Importantly, multilevel models relax the traditional statistical assumption that all cases are independent by taking account of how several respondents may live in the same area and so share some characteristics, particularly with regards to contextual variables. Hence, the use of this technique allows for the impact of neighbourhood level factors on an individual's preferred mix of policing services to be accurately investigated, while still treating respondents as separate cases and hence controlling for differences between individuals.

1.5 Overview of the Argument

The growth of community policing has lead to an increase in police forces' interest in how they can best match their service to the needs of local communities. This interest has stimulated research into which tasks the public would most like to see the police undertake. This research has so far been limited due to the choice of dependent variables, the limited attention paid to the causal mechanisms which underpin an individual's preferences and because of the relatively small amount of consideration given to the role of neighbourhood level factors in shaping preferences.

This thesis argues that rather than simply considering some overall measure of the level of policing individuals would like to see, or investigating attitudes towards different functions of the police individually, a more interesting and complete view of preferences for policing can be developed by looking at the mix of policing tasks an individual favours.

Secondly, it is argued that individuals' favoured mix of policing is likely to be influenced by the wider social situation in which they live. As such, a better understanding of why particular individuals favour a particular mix of policing can be achieved if the role of neighbourhood context is considered alongside the characteristics of the individuals who completed the survey.

The usefulness of any findings about which factors influence a respondent's support for a particular mix of policing will be enhanced if they are supported by a theoretical explanation which provides a convincing account of why such relationships may exist. One such explanatory model will be considered in this work. Individuals will favour policing which they believe best meets their needs, protecting them from crime and danger, while not interfering in their everyday lives. This individualistic

approach to explaining preferences builds on the growing desire within some sections of the public sector to see the public as "consumers" of services.

The analysis presented in this thesis shows that it is possible to identify clusters of individuals whose choice of policing priorities appears to reflect some underlying expectation about how the police should operate. Membership of these "preference mixes" is shown to be related to the characteristics of individual respondents and the borough in which they live. The nature of many of these variations supports the argument that individuals will favour a mix of policing which they believe will best protect them from the threats they perceive, while not disrupting their everyday lives. Finally, it is shown that the role of neighbourhood factors in explaining an individual's preference for policing is greater when considering local, rather than city-wide, policing. This finding suggests that individuals may assess information differently depending on the exact service they are asked to evaluate.

1.6 Thesis Structure

The next chapter provides a review of existing research on preferences towards policing. In particular it highlights the relative lack of attention which has been paid to the impact of neighbourhood context, and how the indicators used to measure preferences for policing may provide an incomplete picture of people's attitudes. Building on this initial review, the chapter provides five hypotheses which will be tested in the subsequent analysis.

Chapter Three discusses the strengths and weaknesses of the 2003-04 Metropolitan Police Public Attitude Survey; the dataset which will be used for the subsequent analysis. More generally, reference is also made to the difficulties of using survey data to measure preferences for policing. Chapter Four discusses the different statistical techniques which will be used in the remainder of the thesis. It is argued that the techniques of factor analysis, latent class analysis and multilevel modelling

can provide a more complete and accurate image of preferences for policing than has been provided in most existing research.

Chapter Five uses latent class analysis to classify survey respondents based on the importance they attach to the police undertaking different tasks when considering policing for London as a whole. The groupings established are then compared to common indicators from previous research to demonstrate how this analysis provides a new perspective on the public's preferences for policing. Chapter Six applies similar techniques to those used in Chapter Five but considers respondents' attitudes towards local, rather than city-wide, policing.

The classifications of respondents developed in Chapters Five and Six are used as dependent variables in Chapters Seven and Eight. These chapters illustrate how preferences for policing vary depending on the characteristics of an individual and the borough in which they live. A range of techniques, including ecological regression and multilevel modelling are used to show that, while neighbourhood context may help explain an individual's priorities for policing at both the city-wide and local levels, it appears to have a greater influence when considering local policing.

Finally, Chapter Nine draws together all the analysis presented to address the overall question of the extent to which neighbourhood conditions influence an individual's preferences for policing. Comment will also be made on the strengths and limitations of the results presented. This discussion concludes with the presentation of ideas for future work, including investigating the impact of historical social change within London and considering how conclusions based on survey responses may relate to the police services individuals actually use.

CHAPTER 2: EXISTING RESEARCH AND HYPOTHESES

Skogan (1996, p430) observes that "what is striking about Britain [in contrast to the United States] is the sheer availability of high-quality survey data" concerning policing. These data are playing an increasing role in informing police managers, monitoring police performance and ensuring accountability (Skogan, 1996, p421 and Beck et al, 1999). A large literature has developed around these data aimed at describing, and to some extent, explaining the public's attitudes towards policing. This research most often focuses on issues around respondents' confidence in the police and levels of satisfaction with the police. In contrast, studies of which tasks the public wish to see the police prioritise appear less numerous.

In short, that research which does exist suggests that the public generally attach high importance to any policing function they are asked to consider. Where a preference for particular tasks is expressed, respondents appear to favour traditional (stereotypical) policing functions, such as responding promptly to emergencies, combating violent crime and foot patrolling. Besides addressing the substantive question of which policing tasks the public see as most important, this literature also highlights some key methodological issues. Notable here is how much existing research has considered the importance attached to different policing tasks separately rather than taking a joined-up view of an individual's attitude across a full spectrum of tasks.

The literature around preferences for policing sits alongside a wider debate about how the police need public support to successfully fulfil their role within society. This work, which will be summarised in the next section, provides a useful context in which to consider why the police may wish to be interested in the public's priorities for policing.

Having examined this literature, this chapter concludes by outlining expectations for the analysis presented in the remainder of the thesis. Based on the literature reviewed, five hypotheses are suggested:-

1) *The importance an individual attaches to different policing tasks is likely to reflect underlying beliefs about the role of the police within society.*

2) *It is possible to identify groups of individuals who attach similar importance to different policing tasks.*

3) *Policing priorities will vary systematically across different groups of respondents.*

4) *In evaluating the role of the police, individuals will take cues from the situation in which they live. Preferences for policing will therefore vary between areas.*

5) *Respondents are likely to pay greater attention to the nature of their local surroundings when considering priorities for local policing.*

2.1 The Police's Need for Public Support and the Wider Debate About Police Legitimacy

There is widespread acceptance that for the police to function effectively they need the support of the public (Roberts and Stalans, 2000, p148, and Tyler and Lind, 1992). A useful overview of why the police require public support and the factors which may influence the level of support they receive is provided by Tyler (2004). This framework provides a useful context in which to assess why the police may wish to be interested in, and address, the priorities of the public.

The police need for public support is two-fold. Firstly, a positive disposition towards the police is likely to increase acceptance of the decisions and actions taken by the police (Tyler, 2004, p85). Secondly, the public have an important role in helping the police to maintain public order both through reporting crimes and coming forward

with information to assist the police with enquires (Sampson, Raudenbusch and Earls, 1997).

If crime is not to become endemic, then an individual's obeyance of the law must be maintained even when they are not directly interacting with a police officer (Mastrifski et al, 1996 and Tyler, 2004). Of crucial importance is the extent to which the public's acceptance of the police and their decisions is voluntary. Compliance with the law is difficult to maintain through force, or the threat of force (Easton, 1975, Sarat, 1977 and Tyler, 2004), and where compliance is maintained in this way it will require substantial resources. Instead voluntary acceptance of the police's authority by the majority allows them "to concentrate their resources on those people and situations in which compliance is difficult to obtain" (Tyler, 2004, p85). The need for public support and voluntary interaction is likely to prove even greater when considering the role the public have to play in helping the police investigate and prevent crime. This is because there is even less compulsion on members of the public to provide information to the police or to co-operate with community activities such as Neighbourhood Watch schemes (Tyler, 2004, p85).

It has been argued that in addition to when it serves their own interests, people are more willing to accept the authority of an institution or individual when they believe they have a legitimate right to exercise power (Werber, 1968). These ideas have given rise to a range of models aimed at explaining how the police can achieve greater support and acceptance from the public.

Within this literature two main approaches can be identified which may help the police to gain the support of the public. Firstly, instrumental models hold that the public will assist the police or obey the law when they believe it is in their interest to do so. The police can therefore increase acceptance of the law "by manipulating an individual's calculus regarding whether crime pays…" (Meares, 2000, p396). The presentation of a credible risk of apprehension and punishment could be expected to

offset the likely benefits of crime and so reduce the impetus for an individual to commit an offence. A similar logic may well apply to encouraging the public to accept and assist the police. If individuals perceive the police as responsive to their needs, they may be more likely to invest effort in helping with enquires and obeying instructions. Relating back to an interest in the public's priorities for policing, it seems plausible that an individual will see the police as more effective and responsive if they are seen to be addressing those issues which the individual believes are of greatest concern.

The applicability of instrumental, or self-interest based, explanations within criminology has been questioned by many authors (Nagin, 1998, Paternoster et al, 1983 and MacCoun, 1993). With regards to support for the police, Tyler (2004, p86) notes that, while some evidence can be presented to show a link between the perceived effectiveness of the police and the likelihood of co-operation, the strength of the relationship should not be overstated. It seems unlikely that an argument which says the police can improve their levels of public support simply by appearing more effective at addressing the public's priorities for policing will tell the full story. However, the existence of even a weak relationship (as identified by Tyler, 2004, p86) does suggest one reason why the police may be concerned to obtain a greater understanding of the public's priorities for policing.

Disquiet about the appropriateness of instrumental models has led researchers to consider other possible explanations for variations in the degree of acceptance the police receive from the public. The second group of possible explanations focus on the idea that the police need to be seen as a legitimate authority, and that, once such a perspective has been internalised, it removes the "necessity to make choices" when supporting the police (Tyler, 2004, p87). Kelman and Hamilton (1989, p16) appear to take this argument further when they argue that, once an authority is seen as legitimate, an alternative thought structure comes into play, representing a duty to obey orders from superiors. This view that an individual's actions may be influenced by perceptions of how legitimate an authority is has been applied to a wide range of

institutions (see for instance, Durkheim, 1986). With regards to the police specifically, Tyler and Huo (2002) and Sunshine and Tyler (2003) present evidence that suggests a link between perceptions of police legitimacy and the public's willingness to cooperate with the police.

If it is accepted that perceived legitimacy can play a key role in establishing greater co-operation between the public and the police, a key question revolves around how the police may be able to enhance their perceived legitimacy. To some extent, at least, it must be presumed that the legitimacy of the police will be influenced by the efficiency with which they undertake their job. However, if this was the only influence on legitimacy such an explanation would offer no greater insight than the instrumental models discussed above. Tyler (2004), Lind and Tyler (1988), Kitzman and Emery (1993) and Wissler (1995) all argue that, when assessing the legitimacy of an institution or individual with authority, the idea of procedural justice is key. Procedural justice involves those in authority being seen to dispose their responsibilities in a fair and open manner. In particular, Tyler and Hou (2002) and McCluskey et al (1999) found that perceived fairness in interactions with the police was associated with a greater willingness to accept the decisions of law enforcement officers.

One issue which potentially limits the importance of procedural justice in explaining attitudes towards the police is that relatively few individuals have direct contact with the police; for instance, 26.4 percent of those included in the survey used for this research reported any form of contact with the police in the last 12 months. This suggests that, while officers' conduct during meetings with the public may be an important predictor of those individuals' perception of police legitimacy, the views of the wider population are probably influenced by more diffuse factors. Tyler (2001) cites indirect beliefs about police fairness as an example of how the ideas associated with procedural justice may help to explain the attitudes of those who have not had direct contact with the police. Similarly, Conley and O'Barr (1990) believe that an authority's legitimacy will be enhanced if people believe they can participate in its

decision making. Within this framework it could be argued that the legitimacy of the police will be greater if they are seen to either be concentrating their resources on issues which the public see as important or if the public believe that the police take on board their expectations when making operational decisions. These arguments suggest that the police may be able to improve the public's perception of their activities (and hence gain greater support) by showing an interest in the public's view about what tasks they should prioritise and by showing a willingness to address or discuss these concerns. This is a suggestion supported by the fact that preferences for greater police-community engagement rank highly amongst many respondents in the following literature review.

2.2 Public Preferences for Policing

2.2.1 London Based Research

The growth of community policing has lead to an increase in the use of survey data by police forces in an attempt to measure and understand the public's preferences for policing (Skogan, 1996 and Salmi et al, 2005). Despite this, the issue of which tasks the public wish to see the police prioritise appears under-researched compared to the topics of public confidence in policing and satisfaction with the police (see the reviews by Boni, 1995, Skogan, 1996, and Brown and Benedict, 2002).

The working papers of Jackson et al (Jackson et al, 2007, Jackson and Bradford, 2007, and Bradford and Jackson, 2007) represent the only detailed secondary analysis of the Metropolitan Police's Public Attitude Survey (PAS), the dataset which will be used in this thesis. These papers differ from the research reported here, and reflect the general pattern of the literature, in that they focus on the determinants of confidence in the police rather than the public's preferences for policing[1]. Despite this, the work of Jackson et al illustrates several points which are relevant to this work.

[1] Another difference is that the analysis of Jackson et al is based on the 2005-06 dataset while the one used in this research dates from 2003-04.

Firstly, when considering which issues may influence an individual's confidence in the police, they argue that police engagement with the community and perceived effectiveness are the two most important factors (Jackson et al 2007, p1). Such a finding is in line with the expectation discussed above that the police may be able to improve the public's attitude towards them by attempting to understand and address the public's desires for policing.

The analysis presented by Jackson et al helps to illustrate the strengths of the PAS dataset. One of the major strengths of the work of Jackson et al, which can be directly attributed to the PAS dataset, is the range of explanatory variables they consider. In particular, because of its focus on policing, PAS appears to contain many more "specialist" variables than may be found in datasets such as the British Crime Survey or Social Attitudes Survey. For instance, Jackson et al (2007) consider how a respondent's perception of collective efficacy may influence the level of confidence they have in the police. Jackson et al (2007) further exploit the detailed nature of the PAS data by considering whether a respondents' perception of the police varies depending on whether they are considering policing in their local area or across London as a whole. They conclude that some differences may indeed exist depending on the context a respondent is asked to consider. For instance, it would appear that perceptions of local policing may be slightly less favourable than those for policing across London as a whole (Jackson et al, 2007, Table 1). If it is indeed the case that individuals evaluate policing in their local area differently from that across the capital as a whole, then there may be some merit in considering respondents' preferences for local policing separately from any more general demands they may express.

Finally, Jackson et al (2007, pp20-22) illustrate how one of the techniques to be used in this thesis can help to make sense of the PAS dataset. They argue that it is possible to identify subpopulations within the sample which vary in terms of the issues they prioritise when forming assessments about how effectively the police operate. These groupings are uncovered through the use of latent class analysis. Although smaller in scope than the analysis undertaken in this thesis, their work helps to show that

answers provided by respondents may be used to identify underlying beliefs or expectations. It also suggests that the mass of information present within PAS may be more easily interpreted if data reduction techniques are used to reveal the major patterns within the data.

Of the research which has considered preferences for policing, the work of Smith (1983) and FitzGerald et al (2002) may be seen as being particularly relevant because, like the analysis in this thesis, they are based on data from the area served by the Metropolitan Police. There are many similarities between the work of Smith and FitzGerald et al; both involved a questionnaire as part of a wider research project and both were conducted in the aftermath of enquiries concerning the Metropolitan Police's relations with minority groups (Smith's work followed the Scarman Enquiry into the handling of the 1981 Brixton riots, while the work of FitzGerald et al was commissioned by the Metropolitan Police following the Macpherson Report into the death of Stephen Lawrence in 1999). In terms of survey design, both studies used samples of between 2,500 and 2,800 drawn from across the area served by the Metropolitan Police and both covered a range of topics including victimisation, anxiety about crime, perceptions of police behaviour and opinions concerning the issues the police should spend time addressing.

In Smith's work, respondents were asked to indicate on a four point scale ranging from "Not at all Important" (0) to "Very Important" (3) how much importance they attached to eight different policing tasks (Smith, 1983, pp224-225). Smith notes that "people place the strongest emphasis on the 'sharp end of policing'" (issues such as catching those who commit muggings and street robberies) and also wish to see the police make efforts to establish contact with local populations, either directly or through community leaders (1983, p225 and p227). In contrast, those policing tasks which could be considered part of the police's "social services role", for instance helping run youth clubs or dealing with family issues, are generally seen as least important (see Figure 2.1). The finding that the public give similar ratings to tasks which can be related together in substantive terms, suggests that, at least at an

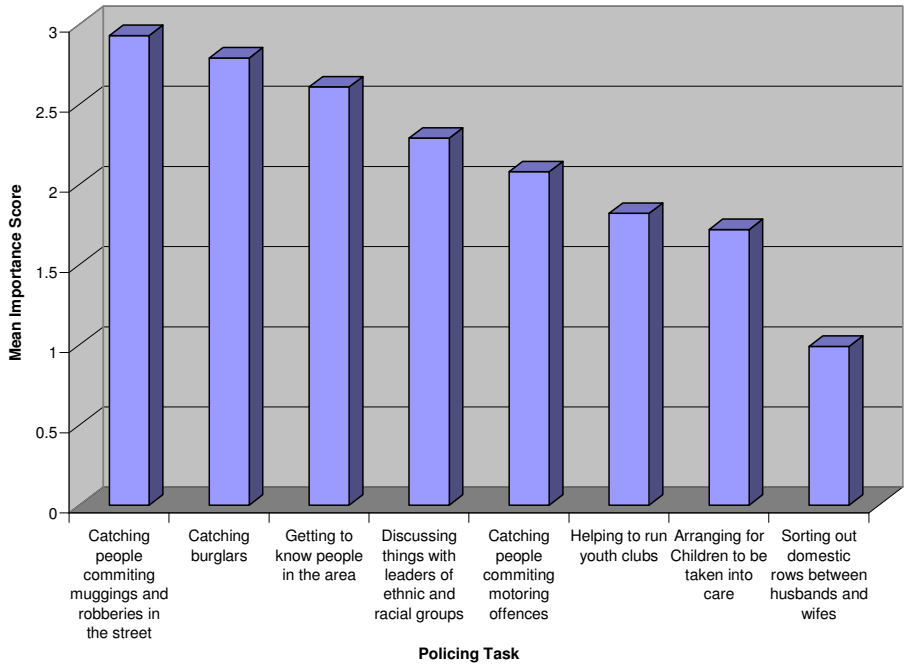
aggregate level, there may be some underlying dimensions explaining how individuals rate different policing tasks. The order of tasks in Figure 2.1 provides evidence that, when assessing the importance of different policing functions, respondents may favour those associated with the police's stereotypical crime fighting role (catching muggers, robbers and burglars) and community engagement (getting to know local people and engaging with community leaders).

As well as providing an overview of the importance respondents attach to different tasks, Smith also considers how the level of importance attached to different policing tasks varies depending on a respondent's socio-demographic characteristics. Smith suggests that no real differences exist between the attitudes of men or women and that no real variation exists between different age groups (1983, p226). Those of West Indian or Asian origin appear to attach slightly more importance to the police undertaking discussions with community leaders, although such tasks are also seen as generally important amongst White respondents. Finally, motorists generally attach less importance to the police dealing with traffic offences than do non-drivers. These last two findings suggest that the importance an individual attaches to a particular task may, to some extent, reflect the impact that approach is likely to have on their own lives. From this perspective, the fact that those in minority groups attach importance to the police liaising with community leaders can be seen as a way of emphasising the need for the police to further understand, and address, the concerns of their community, while the fact that motorists attach less importance to the police addressing motoring offences may be seen as arising from the perception that such policing may interfere with their everyday activities.

Smith also considers how the impact of a respondent's ethnicity varies depending on the ethnic composition of the area in which they live. Although brief, this analysis is of interest because it is one of the few examples of research which considers the possible impact of social context on an individual's preferences for policing. Smith concludes that an area's ethnic composition has no systematic impact on the relationship between an individual's ethnicity and their preferences for policing

(1983, p226). In particular, members of ethnic minorities attach similar levels of importance to the police becoming involved in discussions with community leaders irrespective of the concentration of their own ethnic group within their local area. However, other interesting patterns are identified within the report. For instance, Asian respondents living in an area with a high concentration of other Asians attach a particularly low level of importance to the police's role in "Arranging for Children to be Taken Into Care", possibly, Smith argues, because they are less willing to contemplate the break-up of the family for cultural reasons (1983, p226). Although limited in scope, this provides one example of how the social context of respondents may influence the level of importance they attach to different policing tasks.

Figure 2.1: Average Importance Attached to a Range of Policing Tasks in the 1983 PSI Survey of Londoners.



Data taken from Smith, 1983, p 225. n=2420.

In addition to asking respondents about the importance they attach to different policing tasks, Smith also presents some data on which crimes individuals believe the police should focus most effort on addressing. Respondents were presented with 17 cards detailing different crimes and asked to select the five crimes they believed the police should spend most time addressing and the three they believed they should

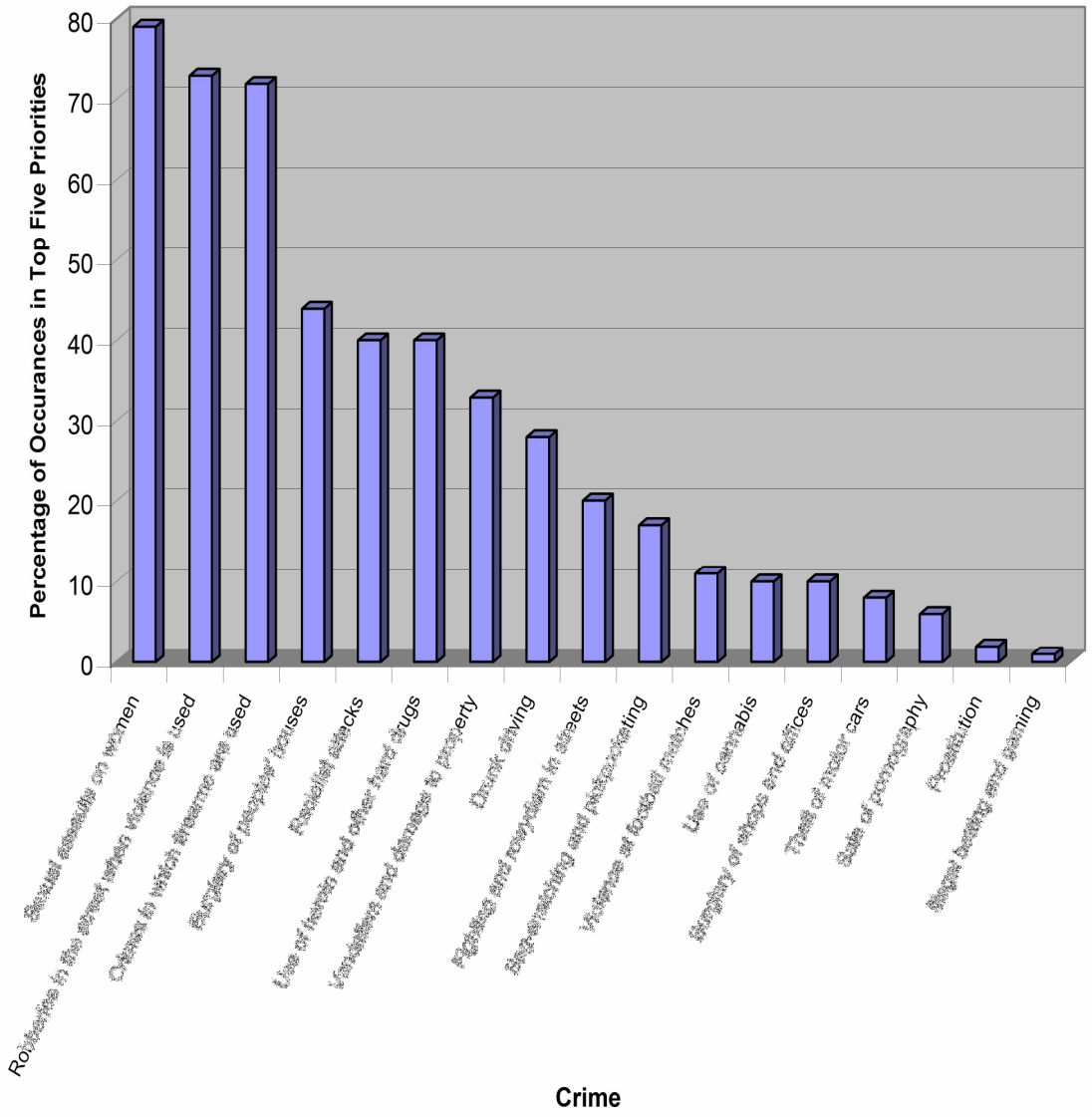
spend least time addressing. Although the concentration on "crimes" means these questions are more focused than the scope of either this thesis or the question discussed above, they do serve to illustrate several important points. Figure 2.2 lists the crimes in the order of the percentage of respondents who identified them as amongst their five most important priorities. The order of crimes in Figure 2.2 can be seen as suggesting that respondents were generally most keen to see the police address violent crime with less concern paid to more private offences (such as the sale of pornography or illegal betting). This perception, in many ways, replicates the finding (demonstrated by Figure 2.1) that the public seem to be more concerned with those tasks which represent the "sharp-end" of policing.

Where the importance attached to addressing a particular crime varies across the population, it once again seems plausible that this is a reaction to how much respondents believe policing may impact on their lives. For instance, the proportion who identify combating racial attacks as important is particularly high amongst Asian and West Indian respondents (Smith, 1983, p52). Similarly, the belief that dealing with cannabis use should be given a low priority is more prevalent amongst West Indian respondents, a finding Smith attributes to the fact that cannabis smoking is culturally valued amongst Rastafarians (1983, p53). These findings are illustrative of the fact that respondents may be expected to attach greater priority to policing tasks they believe offer them greatest protection whilst downplaying those issues which they believe may unfairly target them.

This view that an individual's policing preferences may in some way be related to perceived threats, or the possible costs a respondent believes they face, also fits with the findings that Smith presents with regards to the relationship between crime-fighting priorities and social class. In general, those in higher social classes appear to attach more importance to addressing crimes of violence, while those in lower social classes are often more concerned by bag-snatching and pick pocketing (1983, p55). Smith suggests that this concern with bag-snatching and pick-pocketing could be because those in lower social groups may feel more vulnerable to such incidents and

because the impact of any loss would be greater for them. Such a conclusion fits well with the hypothesis described above.

Figure 2.2: Crime Fighting Priorities Identified in the 1983 PSI Survey of Londoners



Data taken from Smith, 1983, p 51. n=2348.

As with the analysis concerning policing tasks, the report also presents some assessment of how the ethnic composition of the local population may influence which crimes respondents believe the police should address. As with the discussion of individual characteristics, the general conclusion is that relatively little evidence of an area level impact on a respondent's crime fighting priorities can be seen. Notably

an area's ethnic balance appears to have little impact on the level of importance attached to dealing with racial attacks. However, once again those relationships which do exist hint at interplay between individuals and their social context. For instance, White respondents are more likely to prioritise burglary along with bag-snatching and pick-pocketing if they live in an area where a higher proportion of the population come from minority groups. Asian and West Indian respondents in similar areas seem to prioritise bag snatching and pick pocketing over and above burglary. Such findings could be seen as providing evidence that, whether justifiable or not, respondents are taking cues from their surroundings as to the threats they perceive and hence the policing tasks they would like to see prioritised.

As in the work of Smith, respondents (n=2705) in the more recent survey conducted by FitzGerald et al (2002) were given a range of different crimes and asked to identify their top priorities for policing along with those tasks they believed the police should spend less time on. However, in contrast to the work of Smith, the number of crimes they were asked to identify was not fixed. Instead respondents were asked to identify *up to five* crimes they thought were priorities and *up to three* crimes they saw as non-priorities (i.e. the police should spend less time on them). Interestingly, although most respondents identified a wide range of priority crimes, few identified more than two crimes as deserving less attention. This finding may provide some evidence that in general the public are reluctant to suggest areas where policing effort could be cut, especially if the survey instrument does not force them to do so.

Table 2.1 provides details of the ten crimes the public identified as the highest priorities in the survey of FitzGerald et al. Although the exact rankings of crimes vary compared to Smith's 1983 survey, biases towards the police addressing violent crime, burglary and hard drug crime can be seen. This adds further support to the view that the issues highlighted by respondents may represent some underlying perception about how the police should focus their resources.

FitzGerald et al present some evidence that the level of priority attached to different crimes varies between areas. For instance, they note that burglary is of greater concern in affluent areas, while mugging is often seen as more of a priority amongst those in deprived areas (FitzGearld et al, 2002, p40). It is argued that these geographical differences in the level of importance the public attach to the police combating different crimes are the result of variation in the risks individuals perceive (FitzGearld et al, 2002, p40). This finding offers some support for the expectation that individuals' social contexts may affect their preferences for policing through influencing their perceptions of the threats they face. However, in contrast to the work of Smith discussed earlier, FitzGerald et al do not really consider the interaction between respondents' characteristics and the area in which they live. In addition, they make no attempt to control for differences between respondents when discussing differences at an area level. This means that any conclusions should be treated with caution, as there is the possibility that differences between areas may reflect how individuals with similar personal characteristics cluster together in particular areas, rather than representing genuine area level effects.

Table 2.1: Percentage Of Respondents Identifying A Given Crime As An Area The Police Should Spend More Time On In The 2001 Policing For London Survey

Crime	Percentage of respondents identifying as a priority
Burglary	57
Muggings	54
Dealing Hard Drugs	47
Violent Crime	38
Sexual Crime	31
Vandalism	31
Racial Attacks	27
Vehicle Theft	21
Other Autocrime	20
Drink Driving	20

Adapted from FitzGerald et al 2001, p39. Only the ten most identified crimes are listed.

At the opposite end of the spectrum, FitzGerald et al (2002, p41) identify "Neighbourhood Disputes", "Noisy Neighbours" and "Taking Soft Drugs" as the three activities which the public believe the police should spend least time addressing. The relative lack of concern about soft drug use mirrors the finding of Smith concerning cannabis use (see Figure 2.2). Similarly, although not personal issues in the sense of "Arranging for Children to be Taken Into Care" and "Dealing With Domestic Disputes", the lack of concern about "Noisy Neighbours" and "Neighbourhood Disputes" could be seen as offering support for the view that there is a sphere of issues around home life which respondents generally believe are not areas for police involvement.

Beside considering which crimes the police should focus on addressing, FitzGerald et al asked respondents to identify those policing tasks they would like to see the police spend more or less time on (from a list of 15 different tasks). Once again, respondents were restricted in the number of tasks they could identify as important. Patrolling, notably on foot, was generally seen as a high priority, along with community policing and working with children and teenagers (FitzGerald, 2002, p42). These findings could be seen as reflecting the importance the public attach to police-community engagement. It is interesting to note that the function of "Detecting Crime" scores relatively low in FitzGerald et al's survey. This marks a contrast with the findings of Smith discussed above. Unfortunately, as the two surveys are not directly comparable, it is not possible to speculate on whether this is a result of changes in the perception of the police's role, or due to differences in question wording and context. For example, the term "Detecting Crime" may be considered more general, and hence of less concern, than "Catching People Committing Muggings and Robberies in the Street". Similarly, the relative importance of the interaction between the police and young people in 2001 contrasts with the position of the "Youth Club" task in 1983 suggesting that the public's preference for policing may have shifted over time, perhaps to reflect a greater concern with the behaviour of young people, but again this judgement cannot be made with any certainly given the differences between the surveys.

FitzGerald et al (2002, p42) note that "there are striking differences across areas and groups" with regards to those tasks which respondents believe the police should pay less attention to. Although they provide little quantitative detail as to the breakdown of demand for different tasks across different sections of the population, they do cite qualitative evidence (from their focus groups) suggesting that respondents attach less importance to a given task if they believe they will not benefit from such policing, or that an increase in such policing will interfere with their own activities. For instance, young people were generally less in favour of the police increasing foot patrols, possibly because they see themselves as unfairly targeted by such activities (Fitzgerald et al, 2003, p43). Once again, such arguments fit with the expectation that respondents may favour a mix of policing which they believe will offer them the most benefit while having minimal impact on their own activities.

The expectation that individuals draw on their surroundings when forming opinions about the threats they face, and the policing responses they wish to see, is further supported by some of the qualitative data presented by FitzGerald et al (2002, pp33-35). This data, collected via focus groups, represents a useful addition to their quantitative analysis as it starts to provide an insight into the causal mechanisms which may underpin the differences in perceptions between different groups within society. It is noted that respondents often expressed concern about the threat presented by those who are different from themselves ("a them and us argument" FitzGerald et al, p34). In line with the idea that social context may provide a key driver of perceived threat and need for policing, many of the quotes presented by FitzGerald et al seem to link to particular locations about which respondents were concerned, for instance,

> "I don't like going down to [Y] in the evening because there are always scary people…" (2001, p35)
>
> "The whole of [Y neighbourhood] – it's terrible" (2001, p34)

2.2.2 Wider Based Research

The findings discussed above are not unique to research conducted in London. Hough and Roberts (2005, p54) report how the British Crime Survey (BCS) regularly includes questions around attitudes to the police, although reflecting the wider pattern of the literature most of these seem to be concerned with confidence and perceived effectiveness. Hough and Roberts (2005, p54) note that the 2002-03 survey included one question which asked respondents to select their top three priorities from of range policing tasks. Table 2.2 shows the pattern of response to this question. In a manner comparable with those portrayed in London based surveys, there again appears to be a strong presumption that the police should concentrate on crime fighting and emergency response, along with foot patrolling. Of the remaining tasks, working with young people appears to be an important concern, reflecting the results from FitzGerald et al and enhancing the argument that support for this approach to policing may have grown in recent times.

The analysis of the BCS data is essentially descriptive, with neither Hough and Roberts nor Nicholas and Walker (2004, who wrote the original BCS report) considering how priorities vary across different sections of the population. The BCS also asks respondents which crimes they would most like to see the police address (Nicholas and Walker, 2004, p17 and Hough and Roberts, 2005, p56). The top four priorities in the 2002-03 BCS are reported as drug dealing, burglary, sex crimes and muggings. These results are once again broadly comparable with those of Smith (Figure 2.2) and FitzGerald (Table 2.1) and support the view that the public wish to see the police concentrate on those crimes which they believe will have the greatest impact on their lives if they were to be victimised. Reflecting the apparent similarities between the BCS results and the work of Smith and FitzGerald, Nicholas and Walker (2004, p17) note that comparing the BCS results over time suggests that the public's priorities for policing have remained broadly constant.

Table 2.2 Percentage of Respondents Identifying Particular Policing Tasks as a Priority in the 2002-03 British Crime Survey			
Policing Task	**1st Priority**	**2nd Priority**	**3rd Priority**
Responding to Emergency Calls	40	25	13
Detecting and Arresting Offenders	31	32	12
Patrolling on Foot	17	15	20
Working with Schools and Young people	4	9	14
Crime Prevention Advice	3	3	6
Helping/Supporting Victims	2	8	15
Patrolling in Cars	2	5	10
Using CCTV	1	4	7
Policing Traffic	0	1	2
Hough and Roberts (2005, p54)			

Skogan (1996) provides a review of several surveys conducted across the UK during the 1980s and 1990s. For the most part, the conclusions of these surveys appear to reflect those discussed so far. As Skogan (1996, p431) concludes,

> "The image of British policing that emerges from these surveys is one of a public that wants police to focus on traditional crime concerns: serious violent crime, burglary, and vehicle-related thefts. They want the police to come rapidly when mobilized. At the same time, they want more direct, hands-on contact with the police."

These assertions are supported through evidence from a range of surveys (notably those reproduced in Table 2.3). Skogan (1996, p427) notes that it might be expected that respondents will give a high importance to the police responding to emergencies, even though this task tells us little about how the public prefer the police to spend their time. However, taken together, the popularity of "Responding Quickly in Emergencies" and "Responding Quickly to Calls" can be seen as suggesting that the public see the police as a reactive service, which they expect to respond when required. To some extent, this could be argued to be a result of a vision of the police which focuses on their traditional core role (in this case as a rapid response service) within society.

Those other tasks to average over a fifty percent rating in Table 2.3 clearly support the finding of Smith (1983) and FitzGerald et al (2002) that the public's primary view is that the police should focus on responding to crime ("Detecting and Arresting Offenders" and "Investigating Crime") and community policing ("Patrolling on Foot" and "Getting to Know Local People"). Skogan (1996, p428) notes that foot patrolling scores consistently highly across surveys (as indeed it did in the work of FitzGerald et al). One possible reason for this may be that, rightly or wrongly, foot patrolling is seen as addressing several concerns. The work of FitzGerald et al (2002, p43) included some questions which aimed to investigate why the public appeared to favour foot patrolling. In keeping with the argument of Skogan, many respondents highlighted a variety of perceived benefits, the most popular of which were deterring and preventing crime, providing reassurance, work with schools and gathering local intelligence. Therefore, to some extent, it could be that foot patrolling is seen by respondents as a catch-all response, reflecting a desire for the police to undertake many different tasks. It may also be the case that "bobbies on the beat" represents part of a stereotypical image of policing (alongside tasks such as responding to emergencies and arresting offenders). The public's support for these functions could therefore be the result of a belief that they understand, and can associate with, such tasks, much more so than with other roles which the police undertake.

Although the surveys considered in Table 2.3 are not directly comparable, differences in the results provided by different surveys could be seen as providing some evidence that the context in which a survey is conducted may impact on the level of importance respondents attach to different policing tasks. For instance, there are quite appreciable differences between the survey responses in Hounslow and Richmond, even though both areas are in London and both surveys were conducted around the same time.

Supporting the expectation that preferences for policing will vary between areas, Skogan (1996, p427) cites a 1994 survey conducted for Greater Manchester Police (Research Services Limited, 1994). This survey involved a sample of 100 people

from each of Greater Manchester Police's 13 divisions and asked respondents what they thought was the "single most serious problem" in their area. At a division level, there was substantial variation in the level of concern attached to different crimes. For instance, the selection of "Theft and Burglary" varied between two percent and twenty-two percent, and for "Street Crime" between one percent and twenty-two percent.

Table 2.3: Policing Priorities in UK Surveys from the 1980s and 1990s

Percentage Rating Task in Top Five Priorities	Brixton 1984	Kilburn 1984	Richmond 1993	West Mercia 1991	Hounslow 1993	National 1990	Mean Rating Across Surveys[2]
Responding Quickly to Emergencies				86		87	86
Responding Quickly to Calls	72	65	69				69
Patrolling on Foot	78	75	74	66	73	60	71
Detecting and Arresting Offenders	61	53		59		70	61
Investigating Crime			47	66	35	68	54
Getting to Know Local People	69	61		51	42	30	51
Work With/Visit Local Schools	31	35	23	40	44	22	32
Help and Support Victims	49	57	10	30	31	33	35
Giving Crime Prevention advice	40	35	15	31	31	27	30
Patrolling in Cars	19	20	15	27	30	24	22

Based on Skogan (1996, p429)
Questions varied between surveys. For instance Richmond allowed 2-3 main priorities, some other up to five and others simply five.
For details see Brixton (Social and Community Planning Research, 1984a)
Kilburn (Social and Community Planning Research, 1984b)
Richmond (Market Opinion Research International, 1993)
West Mercia (Harris Research Institute, 1991)
Hounslow (Metropolitan Police and London Borough of Hounslow, 1994)
National (Joint Consultative Committee of Three Police Staff Associations of England and Wales, 1991)

[2] Calculated for this thesis, this figure is the mean value across all the surveys presented in this table.

A detailed consideration of the extent to which preferences for policing are similar between the UK and other countries is outwith the scope of this research. However, within the international literature, two studies, Beck et al (1999, considering data from Queensland and Western Australia) and Salmi (2005, using survey responses from two Finnish cities) can be seen as highly relevant to this thesis. Both of these papers address the question of whether respondents' preferences for policing vary systematically across different policing functions.

The work of Beck et al varies not only in its attempt to identify underlying dimensions of policing along which respondents may express preferences, but also in how they conduct separate surveys of the public and serving police officers. The evidence in this study suggests that the police's perceptions of their most important tasks are broadly similar to those held by the public (1999, p197). In fitting with the literature reviewed so far, both groups seem to exhibit a preference for "sharp-end" policing (as shown through a wish to see the police respond promptly to emergencies, arrest offenders and investigate crime).

While the police and public may prioritise similar tasks, Beck et al (1999, p204) note that across nearly all tasks, the public would appear to attach greater importance to the police addressing an issue than do serving police officers. Similarly, the importance the public attach to the police undertaking a particular task nearly always outweighs their perception of how the police currently perform that task (Beck et al 1999, p204). These findings provide evidence to support the view that the public may hold unrealistic expectations of the police. Therefore, engaging with the public about their preferences for policing may be as much about attempting to educate the public, and manage their expectations, as it is about changing policing priorities (Beck et al, 1999, p191).

Building upon the work of Redshaw et al (1995), Beck et al (1999) consider whether respondent's preferences for different policing tasks may be related in a way which

reflects some underlying preference for how the police should operate. The work of Beck et al varies from previous attempts to identify categories of policing tasks (Avery, 1981 and Redshaw et al, 1995) in that they attempt to identify groups of activities based on questionnaire responses rather than ascribing tasks to particular groups based on prior knowledge or expectations. Through factor analysis (1999, pp200-202), they demonstrate how the 45 separate policing tasks they asked respondents to rate can be reduced to nine dimensions. While it is not easy to provide substantive interpretations for all the dimensions uncovered, and many of the dimensions only appeared consistent across the answers provided by police officers, these results do suggest there may be some merit in attempting to link together respondents answers across a range of policing tasks to try and develop a more complete image of their preferences. For instance, even when considering only those responses provided by the public, it is possible to identify several very strong dimensions which appear to reflect genuine approaches to policing. Notably, those tasks which involve the police providing information or advice load on to a single factor, while those involving the investigation of crime also group together. This finding suggests there may be some merit in attempting to uncover underlying attitudes towards policing which are manifested through respondents' attitudes towards individual policing tasks.

It is noteworthy that in the analysis of Beck et al, those tasks which factor most consistently can be considered to represent core policing. That is, they are the tasks which it might be expected the public would be most familiar with and most associate with the police. This suggests the possibility that respondents may be most willing to express preferences for those tasks with which they can most easily identify. The reason why a respondent gives a high priority to a particular policing task is a different research question, and one not discussed in-depth by Beck et al.

One final difference between the work of Beck et al and the work discussed earlier in this chapter is that, in addition to asking about preferences for policing, their questionnaire also contained questions about how respondents believed the police

actually spent their time. Comparing the perceived current level of a policing activity to the level of importance the public attach to that task can provide a measure of a "performance gap". This concept, and its applicability to policing, is discussed in detail by Bland (1997). In brief, the gap between the importance a respondent attaches to a task and the level at which they believe the police currently perform that task provides an indication of the extent to which the police may be seen to be falling short of public expectations. The larger the gap between the two measures, the greater the deficit in perceived performance.

Using the idea of a performance gap to identify those areas where the police might wish to concentrate their efforts in order to improve public perceptions has merit because the metric it employs could help differentiate between tasks, even if a respondent identifies every task as equally highly important. For instance, if individuals perceive every task as highly important but vary in terms of how they perceive current police performance, then the performance gap associated with different tasks will vary. If the police wished to improve the regard in which they are held by the public, they could concentrate on those issues which exhibit the greatest deficit. This is a conclusion which would not be apparent if only information about the importance respondents attach to different tasks was analysed. This approach potentially provides a method for overcoming the tendency of respondents to attach high importance to all the tasks they are asked to consider.

It is however important to note that the performance gap indicator measures a different concept than those questions considering the absolute importance a respondent attaches to a given task. This difference is well illustrated by the work of Salmi et al (2005, Table 2). The largest performance deficit identified by Salmi et al relates to the police undertaking "Foot Patrols" yet this task is seen as only the seventh (out of twelve) most important task in absolute terms. Conversely, while the "most important" task in absolute terms is "Detecting Suspects and Criminals", this only ranks seventh in terms of performance gap, presumably because the public

perceives the police already spend large proportions of their time undertaking this work.

One potential problem with using a performance gap indicator to measure attitudes towards policing is that it requires knowledge of both a respondent's preferences and perception of current performance. Within the work of Salmi et al the level of missing data associated with perceptions of current performance is much higher than for those questions which ask about preferences for policing (2005, p192). This is perhaps not surprising as some respondents may feel they lack sufficient information to make a judgement about current performance levels, even though they may feel qualified to express an opinion on what they believe should happen. However, if those who choose not to answer questions are drawn from particular sections of society (and Salmi et al, 2005, pp194-195, suggest this could be the case), then this could introduce bias to the analysis. Ultimately, the choice of whether to use a performance gap model, rather than one which deals exclusively with expressed preferences, is likely to revolve around exactly which concept the researcher is concerned with and the extent to which missing data may affect the analysis.

Across those pieces of research which have employed the idea of a performance gap, one pattern is strikingly clear. For nearly all policing tasks, the level of importance expressed by the public is greater than the current level of perceived performance (Bland, 1997, Beck et al, 1999 and Salmi, 2005). This fits with the perception identified earlier (with reference to preferences alone) that the public often appear to exhibit unrealistic expectations for policing.

The one dimension of policing which Beck et al (1999, p206) identify as having a higher level of perceived activity than is preferred by respondents is traffic policing (including tasks such as use of speed cameras and undertaking random breath tests). This view appears strongest amongst those respondents who have been stopped for traffic related offences (1999, p206). One possible explanation for this finding could

be that respondents, especially those previously stopped for traffic offences, see this as the police interfering with their lives in a manner analogous to Smith's finding concerning Rastafarians and cannabis use. This interpretation could further support the view that an individual's preferred mix of policing reflects not only a wish for protection but also a wish to see the minimum disruption to their own lives.

Beyond their discussion of the police combating traffic offences, Beck et al (1999, pp205-206) provide some examples of how expressed preferences for policing vary depending on the demographics of a respondent. Notably, they observe that respondents who were undertaking family caring roles were more likely to favour the police addressing non-emergency issues and resolving family issues, while retired respondents favour the police undertaking more patrolling. The authors argue that this analysis provides evidence of how preferences may vary because different respondents will have "different experiences with, and understanding of the role of, the police" (Beck et al, 1999, p205). These examples could also be seen as providing evidence that respondents may wish to see the police spend more resources on the tasks they see as most relevant to their lives, reflecting many of the findings discussed earlier.

Although they consider relatively few explanatory factors, the work of Salmi et al (2005) is perhaps the nearest approach in the existing research to that undertaken in this thesis. The authors state that their aims include measuring the amount of different policing tasks respondents wish to see and relating this to characteristics such as age, gender and living situation (2005, p190). They also investigate how respondent's attitudes towards different policing tasks may be related (2005, p191).

Salmi et al (2005, pp191-192) use homogeneity analysis (Gifi, 1990) to assess whether the preferences expressed by respondents with regards to different policing tasks can be reduced to a lesser number of dimensions. This procedure results in a single dimension representing a respondent's level of wished-for policing (a second

dimension concerns respondents' use of the "Don't know" option). Salmi et al (2005, p194) therefore conclude there is no need to distinguish between preferences for different policing tasks, and instead employ the aggregate indicator revealed in their analysis. This finding is in marked contrast to the results of Beck et al (1999). Several reasons could explain this difference; firstly, the two surveys were conducted with very different samples in different locations; secondly, different data reduction techniques were employed; and finally, the questionnaire employed by Beck et al involved a much larger, and more diverse, range of policing tasks than those considered by Salmi et al. The wider range of tasks considered by Beck et al could mean that their data includes dimensions not present in the dataset considered by Salmi et al.

Relating the level of preferred policing to the characteristics of a respondent allows Salmi et al (2005, pp195-196) to argue that that demand for local policing is greater amongst women and older respondents. These two groups have also been shown to be most fearful of crime (for instance LaGrange and Ferraro, 1989) and it could be that their wish for more policing is a response to this. An alternative, more critical, interpretation is that younger respondents, and males, are more likely to see the police as disruptive to their lives (consider the work of FitzGerald et al, 2002, p160 which suggests that being under 30 and male are both factors associated with an increased chance of being stopped by the police). Consequently, these respondents may favour less policing. If either, or both, of these reasons play a role in explaining the results of Salmi et al, then this could provide support for the view that preferences for policing will vary depending on how the police are perceived by respondents. In addition, Salmi et al (2005, p196) observe some differences in responses and explanatory patterns across the two sites at which their survey was conducted. Although little discussion of why this should be the case is presented, it does provide further evidence that respondents' surroundings could be important in explaining their preferences for policing.

2.3 Research Hypotheses for Investigation

The work reviewed in this chapter provides a number of important insights into how the analysis in this thesis may be conducted, and some idea of the findings which may be expected. Before developing hypotheses for this thesis, it is worth restating that the aim of this analysis is to attempt to discover if a person's preferences for policing vary depending on the characteristics of an individual and the situation in which they live. The intention is not to identify the optimal mix of policing for a given area as this is likely to be dictated not only by public preferences, but also by operational needs and as a reaction to specific incidents (Skogan, 1996, p430). Five hypotheses will be considered:-

1) *The importance an individual attaches to different policing tasks is likely to reflect underlying beliefs about the role of the police within society.*

In general, it appears the public attach high importance to most forms of policing. However, where respondents are forced to choose a limited number of priorities, it would seem that the tasks they select may reflect a wider belief concerning the role of the police. For instance, at an aggregate level, different tasks which can be grouped together to reflect a desire for crime fighting often score similarly, as do those which may come under the umbrella of community engagement (Figure 2.1). It is not certain that such patterns exist at the respondent level (Salmi et al 2005). However, Beck et al (1999) were able to identify and label nine different dimensions (involving 45 tasks) of policing based on the responses within their dataset. This provides some evidence to suggest it is worth investigating whether individual preferences for particular tasks may represent a wider set of beliefs about the police's role. Although the dimensions identified by Beck et al were given functional descriptions, there is some evidence that respondents may favour symbolic policing functions when responding to surveys.

If it is found that the way respondents rate different policing tasks are linked in a systematic way, this would also accord with the view within survey methodology

(DeVaus, 2002, pp41-49) that when answering a question which refers to a specific indicator (such as the importance they attach to one policing task) respondents often draw on a common set of values which refer to a more general concept (for instance support for a general approach to policing). Taken alongside the conclusions of Beck et al (1999), any finding that respondents rate different policing tasks in a systematic manner could be seen as illustrating one weakness within existing work which has often chosen to consider attitudes towards different functions in isolation.

2) *It is possible to identify groups of individuals who attach similar importance to different policing tasks.*

Different individuals will have different concerns and this is likely to influence the importance they attach to different policing functions. Therefore, it is probable that there will be groups of respondents who hold similar beliefs about how the police should act and the level of importance they attach to different policing tasks. Just as it is possible to reduce survey data by identifying groups of variables which can be taken together to reflect an underlying concept, so it should be possible to identify groups of respondents who answer questions in similar ways.

Bartholomew (1987) illustrates that in any dataset where it is possible to identify a factor analysis solution, a solution based on grouping together individuals will also exist. Therefore, based on the findings of Beck et al (1999) concerning dimensions of policing, it should be expected that groups of respondents who provide similar answers across a range of questions will be identifiable.

Previous attempts at data reduction within the literature have focused on grouping together attitudes towards different functions (Redshaw et al, 1995, Beck et al, 1999, and Salmi et al, 2005). Demonstrating that data reduction is also possible by grouping together respondents who exhibit similar attitudes, and that these groups can be

meaningfully interpreted, could be very important as it is likely to allow for individuals' preferences for policing to be more accurately described.

Similarly, as yet no study has considered how preferences for local policing may be related to a respondent's preferences for policing more generally. Assuming that respondents do draw on underlying perceptions when deciding their priorities, it may be expected that an individual's preferences for policing at a local level will be related to the types of policing they favour more generally.

3) *Policing priorities will vary systematically across different groups of respondents.*

The level of importance individuals attach to different policing tasks is likely to be a reflection of the role they perceive the police as having within society. For example, those who perceive themselves as under threat from crime and see the police as a body who could protect them may well favour more policing, particularly focused on the tasks which they believe will best address their concerns. In contrast, those who feel that authority exists to their detriment, or that current police behaviour may unfairly target them, could be expected to wish to see less policing.

The position of individuals within society can, to some extent, be proxied by their demographic characteristics. Therefore, respondents with similar characteristics may be expected to hold similar preferences for policing. Although the evidence presented in this chapter is sporadic, often drawing on one or two particular examples, it is clear that some such patterns exist in the current literature. For instance, Salmi et al (2005) show that the aggregate level of preferred policing is related to a respondent's age and gender. A possible explanation for this finding might focus on how female respondents, and those who are older, may be more fearful of crime and see increased policing as one response to this.

Perceptions of the police, their fairness, and effectiveness, have been shown to vary systematically across the population (Jackson et al, 2007, Boni, 1995, and Skogan, 1996). Such beliefs are likely to play a role in how people believe the police should act. For instance, respondents who see the police in a negative light may be expected to favour less policing, particularly with regards to tasks which they think will impact on their lives. Within the literature, the example of Rastafarians' attitudes towards the police addressing drug crime (Smith, 1983), and the conclusions of Beck et al (1999) with regards variations in support for traffic policing provide evidence as to how a desire for less policing may be related to a respondent's characteristics.

4) *In evaluating the role of the police, individuals will take cues from the situation in which they live. Preferences for policing will therefore vary between areas.*

A minority of the population experience direct contact with the police or consider themselves victims of crime (Nicholas and Walker, 2004). Therefore, many respondents' perceptions of the threats they face, and of how changes in policing priorities may affect these, are likely to be based on more diffuse sources of information. While many of these, such as a sense of discrimination, may be related to the characteristics of particular individuals, it also seems likely that respondents will take cues from the context in which they live (Books and Prysby, 1991, pp47-81 provide a detailed discussion of possible causal mechanisms which may explain the impact of contextual factors on individuals attitudes or actions). Therefore, the nature of the area in which a respondent lives could be expected to influence their preferences for policing, causing preferences to vary between areas.

Several examples can be identified within the literature to support this view, notably in the work of Smith (1983) and FitzGerald et al (2002). The impact of neighbourhood context on individuals' attitudes can take one of two forms. Firstly, a direct effect is possible, where, as FitzGerald et al (2002, p40) state, the nature of a person's surroundings may change their opinion of the threats they face. Secondly,

there is potential for a more indirect, possibly cultural, impact. One example of this could be seen in the work of Smith (1983) when he notes that Asians who live amongst other Asians have an increased likelihood of attaching low importance to the police becoming involved in family issues. The implication is that the socialisation associated with living with other Asians causes a more pronounced attitude than may be attributed to their individual ethnicity.

Although there are some exceptions, notably in the work of Smith (1983), most existing research which has considered whether preferences for policing vary between areas has relied on aggregate level data. Therefore, an important question to be addressed in this research is whether the nature of respondents' local areas impact on their preferences for policing once differences between respondents are controlled for.

5) *Respondents are likely to pay greater attention to the nature of their local surroundings when considering priorities for local policing.*

As many respondents will lack direct experience of the police, their preferences are likely to be influenced by a range of information sources, for instance information from the media and perceptions of local disorder. It is a strong tenet of the Social Psychology literature that in these circumstances not all pieces of information will be treated equally. Instead, respondents form a view as to how relevant a particular piece of information is to the evaluation they are trying to make, and weight it within their final decision accordingly (Bohner and Wanke, 2002, pp108-111). In view of this, respondents may be expected to give more weight to the nature of their local area when identifying priorities for local policing, than when considering preferences for policing in general.

CHAPTER 3: ESTABLISHING A DATASET

This research aims to measure an individual's preferences for policing and to investigate whether these preferences vary depending on the characteristics of the respondent and where they live. This creates four main requirements for the dataset which will be used in the analysis:-

1. It should include a range of questions which measure a respondent's preferences for policing.

2. In addition, it should include explanatory variables which give a good understanding of the characteristics of the respondents; not just in terms of demographics, but also in terms of their experience of crime and other attributes which may influence expectations of the police.

3. It must include suitable geographic identifiers to allow a respondent's location within London to be established.

4. Once a respondent has been located within an area, the dataset should include indicators of the characteristics of that area. These should cover issues such as the composition of the population, the socio-economic make-up of the area and details of issues which may affect priorities for policing e.g. the levels of crime and anti-social behaviour.

The dataset chosen for this analysis is the 2003-04 Metropolitan Police's Public Attitude Survey (PAS). While it is possible to identify several ways in which a survey created specifically for this research might differ from PAS, it generally does a good job of meeting the above requirements. Basing this research on an analysis of secondary data has two principal advantages. Firstly, the sample size is very much larger then could have been collected within a doctoral research project. Secondly, once access to the data was agreed, there was no delay while the data was collected.

3.1 Secondary Analysis and the Metropolitan Police Public Attitude Survey

Secondary analysis of data has a long history in the social sciences (see Hyman, 1972). It has become increasingly popular in recent years as resource constraints have limited the ability of researchers to conduct their own primary data collection, and as improvements in information technology have made it easier for researchers to exploit existing datasets.

Kiecolt and Nathan (1985, p9) note that "traditionally social scientists have been encouraged to collect their own data…questions can be developed to elicit precisely those data that are needed." However, the ability to develop and administer a new survey for this research was limited by the resource and time limitations of doctoral research. The time saved through using an existing dataset has meant that more focus could be given to addressing the methodological challenges of how to use survey responses to indicate a respondent's preference towards policing, and linking together individual and area level explanatory factors.

One alternative to the PAS data is the Policing for London Survey conducted by FitzGerald et al (2002). This survey is broadly similar to PAS in that it sampled respondents from across London and its questions were largely focussed on policing. This means it includes several questions aimed at investigating which tasks the public would like to see the police prioritise. In certain respects, the questions included by FitzGerald et al are preferable to those in PAS because they include constraints to prevent respondents simply attaching high importance to all the tasks they are asked to consider (see detailed discussion below). However, the sample size of the Policing for London Survey (around 2800) is less than half that of the PAS dataset. Moreover, the questions within the Policing for London Survey make no reference to geography when asking respondents which tasks they would like to see the police spend more time on, and only refer to a respondent's local area when asking which tasks they would like to see the police spend less time on (Brown and Whitfield, 2002, p90). This would limit the ability to draw distinctions between a respondent's preferences

for local policing and policing in general. For these reasons, PAS provides a more appropriate dataset for this research.

The 2003-04 PAS was conducted on behalf of the Metropolitan Police by the market research firm MVA. The survey has been conducted annually since 1983. The long-running nature of PAS means that the questionnaire design and sampling strategy have both benefited from the previous incarnations of the survey. The documentation for the 2003-04 survey (MVA, 2004) highlights several areas where questions have been amended over the years to take account of changing circumstances and to ensure the questions accurately reflect current issues. This development, based on experience from previous surveys, might be expected to result in a more refined survey instrument, which will provide higher quality data (Devine, 2003, p285).

Devine (2003, p285) argues that one advantage of basing research on an existing dataset is that researchers can build on the results of any previous analysis. The 2003-04 PAS dataset was provided along with a summary report which presents a descriptive analysis of the data, a comparison with results in previous years (dating back to 1995) and provides technical information about issues such as sampling and weighting. This report not only provides a useful overview of the questions which could be used within this thesis, but the commentary also gives a good indication as to how the topics covered may relate to the policy objectives of the Metropolitan Police.

3.2 Linking Individual Responses to Neighbourhood Conditions

One of the major requirements for the dataset used in this analysis is that it provides a link between respondents and the context in which they live. This is necessary in order to address the issue of whether or not an individual's preferences for policing are related to the nature of the area in which they live. The PAS dataset includes several indicators of a respondent's geographical location. This level of geographical detail is in contrast to many other criminological datasets, such as the British Crime

Survey (BCS). Within the BCS, confidentiality concerns mean respondents are not identified within any spatial unit smaller than their Police Force Area[3]. Neighbourhood characteristics could be expected to vary widely across an area this large (for instance, the area covered by the Metropolitan Police would represent a single geographical unit). Therefore, the inclusion of more precise geographical indicators represents a major strength of the PAS dataset. This extra detail should make it easier to link the responses provided with data that describes a respondent's local area, for instance, census information about the composition of the local population.

The different geographical identifiers within the PAS dataset mean that a decision is needed about the type and size of geography that should be used to represent a respondent's neighbourhood. Several factors need to be considered when making this decision. Firstly, the overall size of the areas defined is likely to be important. The larger the size of the geographic units, the more heterogeneous the social conditions within each area are likely to be. This heterogeneity within areas will limit the ability of any analysis to identify how preferences for policing may vary depending on the nature of a respondent's surroundings. On the other hand, the smaller the geography employed, the more likely it is that a respondent will venture outside their "local area" when undertaking everyday tasks such as visiting local shops. If respondents are spending only a small amount of time in their supposed "local area", then this could be expected to reduce the reliability of any conclusions concerning the impact of neighbourhood characteristics on preferences for policing.

[3] BCS datasets often include geo-demographic indicators, such as ACORN classification, which can be used to get an overview of the nature of a respondent's local area. These variables normally refer to the electoral ward in which a respondent lives, allowing for some investigation of the impact of neighbourhood characteristics on individual outcomes. However, these indicators are summary measures which give an overall impression of the nature of an area. They do not detail separate characteristics of an area, i.e. percentage of population in minority groups and so are of limited use for developing causal explanations about how context may influence respondent level outcomes.

The next issue which needs to be considered when deciding which geography to use is whether the indicators needed to represent different neighbourhood level explanatory factors are available at the appropriate level of aggregation. Due to concerns about confidentiality several of the census measures which will be considered in this thesis (notably those relating to ethnicity) are not always available for very low level geographic units.

The final major concern is whether the geography chosen reflects how respondents may perceive their local area. Much existing research which has employed multilevel modelling has relied on existing boundary data which were often created for administrative, rather than research, purposes (for example electoral wards). The risk with using such geographies is that because they were created for administrative purposes they may not reflect the distribution of the social phenomena under investigation (Diez Roux, 2001, pp1784-1785).

One potential way of addressing concerns about using administrative boundaries would be to create a custom geography, identifying areas which, while varying from each other, were internally homogeneous with regards to explanatory factors and took account of physical features (such as major roads or rivers) which individuals may use to help them define areas in everyday life. One example of such an approach being successfully employed within criminology is the work of Smith et al (2001, pp42-45) which identified homogeneous neighbourhoods within Edinburgh as part of a longitudinal study of youth delinquency. However, as these custom geographies are created by joining together smaller geographic units, this approach would not necessarily overcome the restrictions on the use of certain census measures for confidentiality reasons.

The inclusion of a variable containing respondents' postcodes within the PAS dataset means that, in principle, it is possible to locate a respondent very precisely within London (a postcode is generally shared by between five and ten households). Hence,

it should be possible to combine the responses within the PAS dataset with most geographies (including a custom geography if desired). Unfortunately, the postcode variable exhibits a relatively high level of missing data. Just over 20 percent of cases in the PAS dataset have either no postcode information or only a partial postcode (e.g. SW13). This means that any attempt to link survey responses to area level data via a respondent's home postcode will result in a substantial reduction in the size of the available sample. In contrast, all the cases within the PAS dataset contain valid information in respect to a respondent's electoral ward or borough.

In their work using PAS data to consider confidence in the police, Bradford and Jackson (2007) linked respondents to the ward in which they lived. In this thesis, however, respondents will be linked to boroughs[4]. This choice was made for several reasons. Firstly, boroughs are a major geography within London. They act not only as an administrative unit, but also as a label with which many Londoners identify, much more so than electoral wards. Secondly, at the time this survey was conducted, policing policy in London was often based on addressing the differing needs of Basic Command Units. The geography of these units mirrors that of the London boroughs. Finally, while this decision will reduce the number of "neighbourhoods" within the dataset, it increases the number of cases within each "neighbourhood", a point which will be important when creating borough level indicators by aggregating individual responses within the PAS dataset.

It is important to note that using boroughs to represent a respondent's "neighbourhood" does have some problematic aspects. The geographic spread of most boroughs means they are likely to exhibit internal heterogeneity in terms of

[4] Defined in the London Government Act (1963), boroughs are the principal unit of local administration in Greater London (see map on page viii). Each borough has an elected council who exercise similar responsibilities to Metropolitan Borough Councils in the rest of England (for instance, managing roads, social services, education and waste collection). The organisation of policing within London can be seen as strongly related to the geography of the boroughs, with each borough representing a separate Basic Command Unit within the Metropolitan Police.

social conditions. Moreover, as already noted, using a fixed geography based around a respondent's home address means that the geographic unit within which a respondent is identified may not reflect the nature of the area in which they spend most of their time. For instance, if an individual lives in one borough but works in another then it is possible they will gather cues from the area where they work when forming their preferences for policing.[5] Finally, the decision to base this analysis on boroughs means there will be only 32 unique cases at the area level. As pointed out in the next chapter, this may have implications for the extent to which multilevel modelling can be used to investigate the impact of area level explanatory factors.

Despite these concerns, identifying an individual within the borough in which they reside would appear to represent a good compromise for this research. Boroughs represent a level of geography at which data concerning most area level explanatory factors is easily available. They also represent a definition of "local area" with which individuals may be expected to identify.

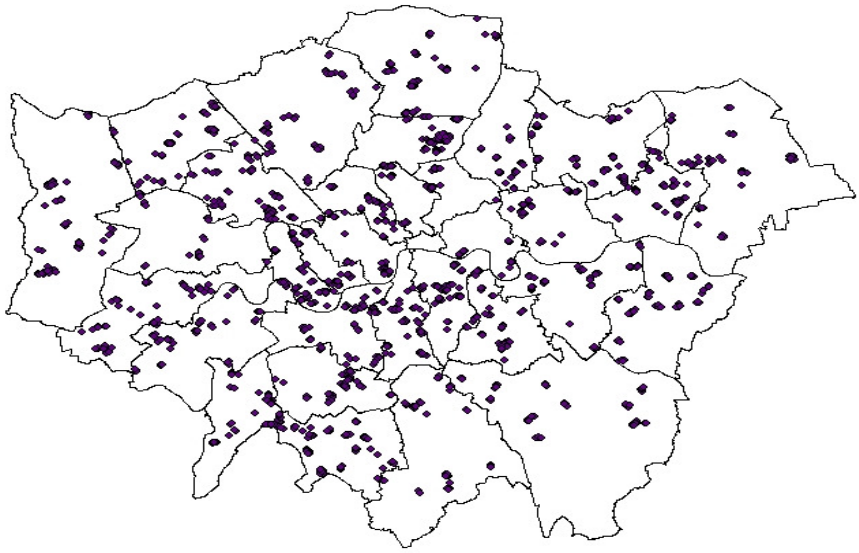
3.3 The PAS Sample and the Weighting of Data

Data collection in the 2003-04 PAS was based on multi-stage cluster sampling (see De Vaus, 2002, pp75-77). Respondents were selected from households that were in turn selected from enumeration districts randomly selected within each borough. This approach is often used to minimise the costs associated with conducting interviews (De Vaus, 2002, p75). However, from the point of view of this research, the principal benefit is that it results in responses which are spread across the whole of the

[5] One response to this issue might be to consider in detail where respondents spend their time. For instance, in their work on youth delinquency, Wilkstrom and Butterworth (2006) asked respondents to keep a diary of where they spent their time and what activities they were involved in at each location. This allowed them to build up a detailed picture of the relationship between a respondent's surroundings and their actions. Unfortunately, the PAS dataset only includes details of where respondents reside and not where they spend their time. It is therefore not possible to study the more complex relationship between where respondents "live" (as opposed to reside) and their preferences for policing.

Metropolitan Police Force area (see Figure 3.1). This is important because if the analysis is to consider how preferences for policing vary depending on social context then it is crucial that respondents are drawn from a range of different locations. The survey was conducted during a twelve month period beginning in April 2003. The final sample was broken down as shown in Table 3.1.

Figure 3.1: Distribution of Survey Respondents Across London



Includes only those cases with a full postcode (n= 5447). The City of London is not served by the Metropolitan Police and so no respondents are drawn from this area.

Table 3.1: Breakdown of 2003-04 PAS Sample by Borough and Time Period

Period	**Interviews per Borough**	**Interviews within Metropolitan Police Area**
April-June 2003	56	1792
July-September 2003	56	1792
October-December 2003	56	1792
January-March 2004	56	1792
Total	**224**	**7168**

Based on MVA (2004, Table 1.1)

One of the major reasons for basing this research on an existing dataset was to ensure a large sample size. However, the sub-sample size associated with each borough is also important. As discussed in the next chapter, one way to investigate whether preferences for policing vary depending on neighbourhood context is to look at whether "average" preferences vary between boroughs. The more respondents questioned within each borough, the more robust and reliable estimates of aggregated preferences are likely to be. For instance, with 224 cases in each borough, each individual is, on average, contributing less than half of one percent to any indicator measured at the borough level. This means that any outlying cases are unlikely to unduly influence the aggregate measure. Similar arguments can be made with regards to using aggregated survey responses to measure explanatory factors at the borough level. The sample size and geographical spread of respondents should allow this research to assess how preferences for policing vary at a level below police force area. Although the size and nature of the area covered by the Metropolitan Police means that it could in many ways be seen as an atypical police force, this approach may help address the concern highlighted by Skogan (1996, p427), that previous analysis has paid little attention to variation in preferences and attitudes within police force areas.

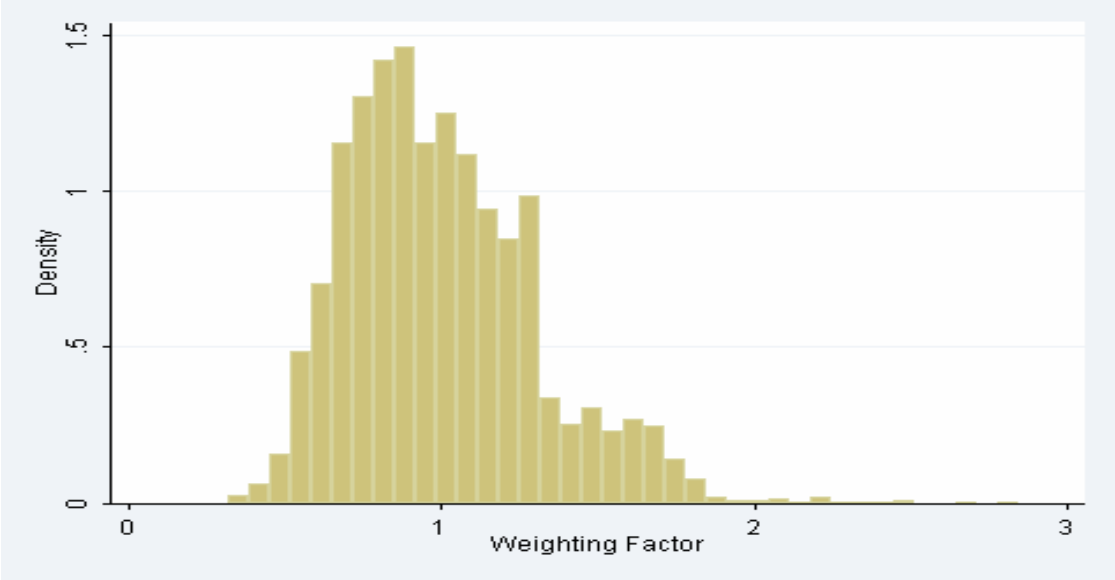
The decision to conduct interviews over a twelve month period is useful because it could help to smooth out any seasonal variations in the answers provided. For instance, it might be that during in the winter months, when daylight hours are fewer, respondents attach greater importance to the police providing foot patrols after dark. One potential downside to this strategy is that it is also possible that spreading the interviews over a twelve month period could cause the context of the responses to change, introducing potential bias to the data. For instance had this data been collected in 2005 it might be expected that those respondents interviewed after the bombings of 7/7 would have attached greater importance to addressing the threat of terrorism. Although no single incident of the magnitude of 7/7 occurred during the collection period for this survey, it is possible that smaller (possibly local) events may have influenced the context in which responses were provided over the year.

A further advantage of the large sample size is that the dataset should be more representative of the population it is intended to describe. This means that any results are less likely to be skewed through one or two individuals providing the only evidence of the preferences held by a particular group within the population. The answers of individual respondents were weighted by MVA to try and ensure that the sample reflected the demographic characteristics of the population served by the Metropolitan Police. This weighting was based on the population as recorded in the 2001 census. Weighting was a two stage process. Firstly, respondents were weighted (based on their age, sex, ethnicity and working status) to ensure they were representative of their borough's population. Secondly, these weights were scaled to account for the relative population size of each borough. This provided a dataset representative of the population within the Metropolitan Police Force Area (MVA, 2004, Appendix A). This two stage procedure is useful for this research because it means that the weighted data should not only reflect the population of London as a whole, but also that any analysis conducted on the responses from a single borough should reflect the population of that area[6].

Appendix 3.1 compares the characteristics of the weighted and unweighted samples. The similarity between the weighted and unweighted percentages lends support to the view that the original sample was a good approximation of the population in London, a point reinforced by the distribution of weights within the dataset (Figure 3.2). There are very few high value weights within the data (the highest individual weight being 2.84). This is reassuring for any subsequent analysis, as previous work has suggested that having to attribute high weights to a low number of cases in order to create a representative sample can cause problems with the accuracy of results (Raab, et al, unpublished).

[6] In contrast, if the data had been weighted to reflect the population of London without reference to the borough structure, it would not be possible to produce accurate estimates of measures at a borough level.

Figure 3.2: Distribution of Weights Within the PAS Dataset



n=7168

While the PAS sample design appears well suited to use in this thesis, several other points are worthy of note. Kiecolt and Nathan (1985, pp13-14) observe that it can be difficult to study subpopulations, such as ethnic minorities, if the original sample does not include a reasonable number of cases in each grouping. This could be particularly relevant to this research, given the possible relationships between ethnicity and preferences for policing which were identified in the previous chapter. Achieving an acceptable number of ethnic minority respondents often necessitates a booster sample (as is used in the BCS). PAS includes no such booster sample. Looking at the detailed breakdown of PAS respondents by ethnic origin helps to highlight this problem. There are 119 different categories of ethnicity recorded in the data, but most of these categories include five or less respondents. Within the accompanying technical report this problem is addressed by collapsing ethnic background in to four main categories (White, Black, Asian and Other). This creates groups the sizes of which are more conducive to reliable statistical analysis (Table 3.2). This same

approach is adopted in this thesis. However, it should be noted that some potential differences between groups which are now classified together can no longer be investigated. For instance, any differences between Indian and Pakistani respondents will be lost as both groups will be grouped together as "Asian". This problem is likely to be a particular issue when trying to interpret any findings concerning the "Other" category. This category represents a very diverse group of respondents which cannot really be interpreted as a homogeneous group. This issue is likely to occur whenever the aggregation of categories leads to the creation of an "Other" group (a further example concerns home ownership - see Appendix 3.2). Despite the large sample size, some uncommon characteristics which may play an important role in explaining preferences for policing remain scarce within the data, and this is likely to limit the certainty with which the impact of these factors can be discussed. For instance, only 67 respondents reported having conflictual contact with the police in the last twelve months.

Table 3.2: Number of Respondents in Each Ethnic Group in PAS 2003-04 Dataset

Group	**Raw n**	**Weighted Percentage**
Asian	722	11.96%
Black	774	10.84%
White	5210	71.39%
Other	438	5.81%
n=7144 (respondents who provided detailed information about their ethnicity)		

3.4 Possible Indicators of a Respondent's Preferences for Policing

The primary aim of PAS is to provide the Metropolitan Police with data about public concerns, how well the public believe the police are doing and how the police could improve their service. In this respect, it is typical of the many surveys used by the police in the UK (Skogan, 1996, p421), and includes many more questions about perceptions and expectations of the police than are found in less specialist surveys. Within the PAS dataset it is possible to identify several sets of questions which could provide an indication as to a respondent's preferences for policing at both a city-wide and local level.

De Vaus (2002, p98) highlights how it is important that questionnaires contain questions which respondents could be expected to have the knowledge to answer. This is a potential issue with questions aimed at establishing a respondent's attitudes towards the police because only a small proportion of the public is likely to have direct experience of the police. With regards to identifying policing priorities, it seems possible that many respondents may lack sufficient details of how the police act, the demands they face, or the costs of their different activities. In the absence of such information, respondents might be expected to base their opinion on either second-hand information (for instance, press coverage of major criminal investigations), some symbolic attachment to policing or cues which they believe indicate the threats they face. Beyond any functional role, it is argued that the police occupy a symbolic position within society (Walker, 1996, Tyler and Hou, 2002, pp124-126). Lacking detailed knowledge about which policing tasks might best address their concerns, respondents may well draw on their personal belief about the role of the police within society. For instance, those who believe the police play a useful and important role in society may attach a high level of importance to all the policing tasks they are asked to consider. In contrast, those who hold less favourable views about the legitimacy of the police may attach a low level of importance across the board. Alternatively, if respondents lack the detailed information about what different policing tasks involve, it is possible they may choose to favour tasks which reflect a symbolic (stereotypical) image of policing. The literature reviewed in the

previous chapter highlighted how many respondents attach high importance to the police patrolling on foot. This idea of police on the beat relates to a traditional view of policing with which the public often associate (Skogan, 1996, p431). However, depending on the objectives the police are trying to address, it may prove less effective than other more targeted interventions (which the public choose not to favour because they do not fully understand what they involve).

Given concerns about whether respondents have sufficient information to identify the policing tasks which will best address their concerns, it could be argued that any analysis based on survey responses would be of limited policy relevance. However, as Beck et al (1999, p193) note "it is commonly accepted that the determination of the role of the police must be undertaken in consultation with the community in order to maximise the effectiveness of service delivery". This suggests that, despite possible limitations, knowledge about public preferences for policing is likely to be of interest to those involved in policing policy. At the very least, knowledge of the public's expressed preferences for policing may act as a starting point for further discussion between the police and the public.

One of the contentions to be considered in this thesis is that a respondent's neighbourhood may have a greater influence on preferences for local policing compared to policing in general. The inclusion of questions concerning policing preferences both within a respondent's local area and across London as a whole therefore represents a strength of the PAS dataset.

Using questionnaire responses to measure individuals' preferences for policing is fraught with difficulties. Many surveys include questions which are too general to provide any detail as to what the public would like to see the police spend time doing (Beck et al, 1993, p192).

For instance, the 2005-2006 BCS (which has to cover a wide range of topics including victimisation, interaction with the criminal justice system and attitudes towards crime and punishment) included the following questions about police performance,

> How good a job do you think THE POLICE are doing?
>
> 1. Excellent 2. Good 3. Fair
>
> 4. Poor 5. Very poor
>
> (Home Office, 2007, p107)

> Taking everything into account, how good a job do you think the police IN THIS AREA are doing?
>
> 1. Excellent 2. Good 3. Fair
>
> 4. Poor 5. Very poor
>
> (Home Office, 2007, p108)

However, the BCS does not regularly include any further questions aimed at understanding why an individual may perceive the police as doing a "very poor" job or what they could do to improve public satisfaction.

The more police-centred focus of PAS means that it contains several sets of questions aimed at eliciting detailed information about which aspects of policing respondents attach most importance to. For instance, there are 13 questions concerned with policing priorities for London as a whole. These questions ask respondents,

> "I'd like you to tell me how important it is that the Metropolitan Police do each of the following...please read out a number between 1 and 7, where 1 = Not at all important and 7 = Very important." (MVA, 2004, Appendix D)

The 13 tasks respondents were asked to evaluate are shown in Table 3.3. Apart from the question concerning terrorism, which was always asked first, the order in which these tasks were presented to respondents varied. This technique should hopefully reduce any bias that may have occurred with respondents attaching greater importance to tasks which are presented to them earlier in the data collection process.

Prior to this question, for these same 13 functions, individuals were also asked,

> " …for each one, I would like you to tell me....how well the Metropolitan police actually carry out each one, Please answer by reading out a number between 1 and 7, where 1 = Not at all important and 7 = Very important." (MVA, 2004, Appendix D)

Table 3.3: Policing Tasks Respondents Were Asked To Assess When Considering London as A Whole
Prevents Terrorism
Respond To Emergencies Promptly
Provide A Visible Patrolling Presence
Investigate Crimes Committed Against Members Of Minority Groups
Reduce Crime And Disorder Through Consultation With Local Authorities
Deal With Vehicle Crime
Deal With Gun Crime Issues
Deal Effectively With Offenders
Support Victims And Witnesses
Consult With The Public
Police Major Events In London
Tackle Drug Dealing And Drug Use
Investigate Child Abuse
MVA, 2004, Appendix D

Reflecting the view that respondents may not have sufficient knowledge to reach a judgement about policing priorities or performance, these questions include a "Don't Know" option. Rather unsurprisingly, the "Don't Know" option was more often used when answering the questions about actual performance rather than perceived importance (see Chapter Five for full details). The interpretation of "Don't Know" responses with regards to questions concerning priorities for policing is open to discussion. For instance, if a respondent does not know how much importance they attach to a particular task could this be seen as tacit evidence that they consider it unimportant? After all, if a respondent does not know enough about a police task to form an opinion about the importance they attach to it, it could be argued that they have not considered it important in their previous thinking about policing. Alternatively, it might be that the selection of "Don't Know" reflects a genuine lack of knowledge about what is involved with a particular policing task and the benefits it may provide. In this case an individual might be able to form an opinion if provided with additional information (a full discussion of the use of "Don't Know" options can be found in De Vaus, 2002, pp105-106, and Converse and Presser, 1986). In view of the lack of information about why a respondent has selected a "Don't Know" response, it appears appropriate to treat these data as missing rather than trying to apply any fixed interpretation. Many of the techniques discussed in the next chapter are capable of handling missing data. Therefore, treating "Don't Know" responses as missing is likely to allow for at least an initial investigation into the public's preferences for policing.

In addition to the questions concerning policing for London as a whole, PAS includes two blocks of questions around policing preferences for a respondent's local area. Firstly, respondents are asked which crimes they would like to see the police address in order to improve their local area. Respondents were presented with a list of 22 crimes and asked to identify those they would like to see the police address. There is no limit to the number of crimes a respondent is asked to identify. This generates 22 binary variables indicating which crimes each respondent believes the police should be most concerned with in order to improve their local area. The focus of these questions is different from those used to look at preferences towards city-wide

policing. While the questions discussed earlier were concerned with a range of policing tasks which reflect the diverse nature of policing, this set of questions focuses exclusively on the police's role as crime fighters. This means they are of limited use for this thesis, which is concerned with policing priorities including, but not limited to, crime fighting.

Respondents were also asked,

> "In order to improve life in this area, which of the following would you most like to see the police do?" (MVA, 2004, Appendix D)

and were given a list of twelve different policing functions (shown in Table 3.4) to consider. As with the previous question about crimes, respondents were able to select as many tasks as they wished.

The concentration on policing tasks, rather than crimes, means this second set of questions better reflects the scope of this thesis. The tasks respondents are asked to consider at both a local and city-wide level appear to cover a good range of the different functions the police may undertake, and, for the most part, the tasks appear well defined within the question. One exception to this is, however, the task "Deal Effectively with Offenders" which is considered within the city-wide context. Given the lack of clarity about what this task may involve, it will be important to consider closely how, if at all, responses to this question are related to the other tasks respondents are asked to consider.

Table 3.4: Policing Tasks Respondents Were Asked To Assess With Reference to Their Local Area
Provide Education about Drugs
Consult with the Public
Provide Information about Crime Prevention
Support Neighbourhood Watch Schemes
Visit Schools to Increase Children's Awareness on Crimes
Patrol in the Evenings More
Police to be Made More Visible in General
Respond More Quickly to Callouts
Deal with Youths Hanging Around on the Streets
Remove Tramps/ Vagrants
Crack Down on Noise
Control Public Disorder
MVA, 2004, Appendix D

It is important to note that some key differences exist between the questions concerning local and city-wide policing and that these differences may limit comparisons between preferences for policing at different levels. The tasks respondents are asked to consider are different in the two sets of questions (Tables 3.3 and 3.4). To some extent, this is a reflection of how policing concerns will vary depending on the context under consideration. For instance, while it might be appropriate to ask respondents about the importance they attach to the police addressing terrorism when considering London as a capital city; local policing is often associated with more day-to-day issues such as vandalism or anti-social behaviour. Even where the two sets of questions involve the same policing tasks, the nature of the questions varies. For instance, in the local context, visible patrolling appears to be covered by the two tasks, "Patrol in the Evenings More" and "Police to be Made More

Visible in General", while in the city-wide context a single question refers to "Provide A Visible Patrolling Presence". A further difference concerns the options available to a respondent to express their opinion. While the city-wide questions involve a seven point ordinal scale and a "Don't Know" option, those concerned with local policing are simple "Yes" or "No" questions with no "Don't Know" option. Taken together these differences mean it is not possible to make direct comparisons between a respondent's preference for a particular function at a local and city-wide level. However, this does not mean that more general comparisons cannot be made. For instance, do those individuals who, when considering city-wide policing, attach high importance to policing tasks associated with "community policing" also attach high importance to "community policing" related tasks in their local area?

One limitation of the questions identified as measuring preferences for policing at both the city-wide and local levels is that they include no constraints to prevent a respondent simply suggesting that all the functions the police undertake are important. This not only means that responses are likely to be isolated from the policy context of finite resources, but also removes the need for respondents to indicate which tasks they believe are most important (they can instead just reply that all tasks are important).

At a basic level, constraints could be introduced simply by limiting the number of tasks a respondent is allowed to indicate they would like to see the police prioritise (see for example the surveys of Smith, 1983, and FitzGerald et al, 2002). Such constraints could have been introduced to the PAS question concerning local policing by restricting the number of tasks a respondent is allowed to identify as important (for instance no more than six out of the twelve considered). Extending this approach further, respondents could also have been asked to identify up to six tasks they believed were least important. This would have meant that for each respondent it would be possible to identify the tasks they were most concerned about, those they saw as less important and those they held no firm opinion about (i.e. had not marked

as either important or less important). This approach would have given an overview of the relative importance respondents attached to different tasks.

A more complex approach to preventing a respondent answering that every task is of high importance is the Priority Evaluator method described by Hornville and Berthoud (1970). This approach involves respondents being given a notional budget to "spend" and a range of services (in this case policing tasks) which they can purchase. Each task has a price per unit and a respondent can select any mix of tasks providing they do not exceed the budget. For example, the notional budget may be £2000 and the respondent asked to select between the following three functions:

Task	Price per Unit
A	£150
B	£250
C	£600

A respondent who believed the police should exclusively concentrate on Task B could indicate this by purchasing eight units of this task (8x250=2000). In contrast, a respondent who believed all three tasks were equally important could show this by buying two units of each task ([2x150]+[2x250]+[2x600] = 2000). Alternatively, a respondent could choose to favour one task but not at the complete expense of other tasks. For instance, six units of Task A (£900), two units of Task B (£500) and one unit of Task C (£600). The key advantage of this method is that it allows the researcher to set a pricing structure and budget which more accurately reflect the constraints within which policy decisions are made.

The Priority Evaluator approach could have been used within the PAS questions concerning preferences for city-wide policing. In PAS, respondents were asked to indicate the importance they attached to each task on a scale of one to seven. A

constraint could have been introduced by limiting each respondent to a budget of 50 "importance points" which they then had to distribute across the 13 tasks they were asked to consider.

The difficulty with introducing constraints (particularly via the Priority Evaluator approach) is that it increases the complexity of the questions. This could potentially impact on response rates (De Vaus, 2002, pp112-113). A low response rate, particular if the likelihood of response varied across different groups of respondents, could limit the ability of the dataset to accurately represent the opinions of the population across London. The level of missing data in the PAS dataset is generally very low (see Chapters Five and Six) and a balance must be struck between having questions which provide excellent indicators of the issue under consideration, and ensuring a high proportion of respondents are able to express their opinion.

3.5 Possible Respondent Level Explanatory Variables

Just as the focus of PAS provides for a wider range of possible dependent variables than might be found in a more generic survey, it also ensures that the survey includes many questions which could serve as explanatory factors. These variables can be split into three main groups:-

1) The demographics of the respondent.

2) A respondent's experience of crime and the police.

3) A respondent's perception of his or her neighbourhood.

Full details of the variables which will be used in the subsequent analysis are provided in Appendix 3.2. In terms of a respondent's demographics, PAS contains variables for most of the factors identified in the previous chapter. The survey covers issues such as gender, age, social class, family structure, home ownership, car ownership and how long a respondent has lived in their local area. However, there are no questions relating to household income or education. This provides a further illustration of the way in which, even where a dataset is generally well suited to the

purposes in hand, secondary analysis often involves compromises in terms of the relationships which can be tested because a researcher is dependent on suitable indicators having been included in the original survey.

All of the respondent level explanatory factors used in this analysis are measured using categorical variables. Some of these categories represent very few cases. This can cause problems with model estimation (Stack and Unwin, 1995, p18). Reflecting the discussion on issues of ethnicity earlier in this chapter, this problem will be addressed by recoding data in to broader categories. When recoding variables it is important to try and ensure that any new categories are relevant to the analysis. For instance, the variable which records a respondent's social class contained the following possible values, "A, B, C1, C2, D, E". These can be collapsed into three more broad categories, "A and B, C1 and C2, D and E". In this case, the new groupings still maintain substantive meaning, i.e. "A and B" represents those towards the top of the social class structure, "C1 and C2", the middle classes, and "D and E" those towards the bottom of the class structure, hence the recoded variable can still be easily interpreted. However, one problem with recoding variables into broader categories is that it is often necessary to create an "Other" category to represent those original values which cannot be grouped together in a substantively meaningful way. As was shown with the discussion of ethnicity, "Other" categories can involve grouping together very diverse cases. This can make it very difficult to provide a meaningful interpretation of relationships involving these cases.

The appropriateness of PAS for this research is well demonstrated when considering explanatory variables relating to an individual's experiences of the police and victimisation, along with indicators of a respondent's perception of their local area. The PAS dataset includes a series of questions about what, if any, victimisation a respondent has suffered over the preceding twelve months. Table 3.5 summarises the experience of victimisation recorded in the dataset. Ideally, these different crimes could be entered in to the analysis as separate variables. This might provide an indication as to whether respondents who experience different forms of victimisation

respond by prioritising different policing functions. However, as Table 3.5 shows, many types of victimisation are not very prevalent within the dataset and hardly any of the respondents experience crime outside their local area. Therefore, for this analysis (which is essentially exploratory), it was decided to create a single variable indicating whether or not a respondent had experienced victimisation in the proceeding twelve months (a total of 18.3% of the sample experienced at least one incident of victimisation in the past year).

The research reviewed in the previous chapter suggested that those who felt that police activity interfered with their day to day lives often wished to see less policing. The PAS dataset includes one question which asks a respondent if, in the last twelve months, they have been stopped by the police, searched by the police or arrested. This provides a further example of how PAS includes questions about topics which are very relevant to this research, but are often not present in other surveys. This type of contact was however very rare within the dataset (around 1% of respondents indicated they had experience of it). This rarity means that great caution will need to be taken in interpreting relationships between conflictual contact and preferences for policing.

Table 3.5: Experience of Victimisation in 2003-04 PAS Dataset		
Crime	**Percentage of Sample Experiencing Victimisation in Last Twelve Months**	**Percentage of Sample Experiencing Victimisation in Last Twelve Months in Local Area**
Mugging	2.2	1.9
Rape	0.1	0.1
Faith Related Crime	<0.1	<0.1
Sexual Assault	0.1	0.1
Physical Assault	1.2	1.2
Theft of Vehicle	2.1	2.1
Burglary	3.7	3.5
Theft from Vehicle	3.4	3.2
Racial Harassment	0.6	0.5
Racial Motivated Assault	0.1	0.1
Arson	0.2	0.2
Graffiti	0.5	0.4
Domestic Violence	0.3	0.3
Homophobic Crime	0.1	0.1
Other Hate Crime	0.2	0.2
Vandalism	1.9	1.9
n=7168		

The finding of FitzGerald et al (2002) that an individual's feeling of safety was often related to the perception of the area in which they live, suggests that an individual's policing preferences may be influenced by how they perceive the area around them. The PAS questionnaire includes four questions which help capture a respondent's attitude towards their local area. Firstly, respondents were asked,

> "Thinking about this neighbourhood, on the whole, how satisfied or dissatisfied are you with it as a place to live?
>
> 1. Very Satisfied
> 2. Fairly Satisfied
> 3. Neither satisfied nor dissatisfied
> 4. Fairly Dissatisfied
> 5. Very Dissatisfied
> 6. Don't Know"
>
> (MVA, 2004, Appendix D)

The answers provided to this question were highly skewed, with around three quarters of respondent being either "Very Satisfied" or "Fairly Satisfied" with their local area. This meant that the remaining answers each accounted for relatively few respondents. In view of this, and the fact that the difference between answers such as "Very Satisfied" and "Fairly Satisfied" could well vary between respondents without reflecting a genuine difference in opinion, this variable was simplified to a binary indicator. The answers "Very Satisfied" and "Fairly Satisfied" were combined to indicate those who expressed some level of satisfaction with their local area. The contrast group was those who did not express satisfaction ("Neither Satisfied nor Dissatisfied", "Fairly Dissatisfied" and "Very Dissatisfied"). The handful of cases recorded as "Don't Know" were treated as missing data. These missing cases accounted for less than one percent of the data and so this is unlikely to have a notable impact on the overall sample size available for analysis.

Similarly, respondents were asked,

> "To what extent do you fear crime in this area?
>
> 1. A Great Deal 2. A Fair Amount 3. Not Very Much
> 4. Not at All 5. Don't Know"
>
> (MVA, 2004, Appendix D)

The responses to this question were much more evenly distributed than those concerning satisfaction with a respondent's local area. Once again the "Don't Know" option was rarely chosen (less than 1% of cases) and these answers were set to missing[7]. As with the previous question, this data was dichotomised. The first two categories were grouped together to represent those respondents who expressed a substantial fear of crime, the remaining two categories being taken to together to represent those who were less fearful of crime.

On a related note, respondents were asked,

> "How safe do you feel when you are outside after dark in your area?
>
> 1. Very Safe 2. Fairly Safe 3. Mixed Views
>
> 4. Fairly Unsafe 5. Very Unsafe"
>
> (MVA, 2004, Appendix D)

This variable was turned to a dichotomous indicator by grouping together those who responded "Very Safe" or "Fairly safe" to represent those who expressed a feeling of

[7] There was overlap between the use of "Don't Know" in this question and that concerning general satisfaction with a respondent's area. This means the loss of cases due to setting these responses to missing is less than the combined total of "Don't Know" responses (around 1.6% of the overall sample).

safety in contrast to those who used any of the three remaining answers; this resulted in approximately 50 percent of cases in each category.

The use of questions such as "How safe do you feel when you are outside after dark in your area?" to represent individuals' perceptions of safety or fear of crime has been questioned (Farrall and Gadd, 2004). It is argued that any answers provided could be influenced by a wide range of different issues and are subject to substantial measurement error. A more complete understanding of how a respondent perceives the threat from crime could be gained by considering how frequently, and intensely, they feel under threat from crime. The impact of any deficiencies concerning the questions outlined above is unclear, especially given the exploratory nature of this analysis. The PAS dataset does not include the required data to construct more complex perception measures. Therefore, in common with most existing work, the responses to the question identified above will be used in this analysis. However, the potential limitations of these measures should be remembered when considering any subsequent conclusions.

One area where the PAS dataset does contain in-depth data about respondents' perceptions of their local area is when they are asked to consider how prevalent a range of different "problems" are within their neighbourhood. Respondents were presented with a list of 20 "problems". They were asked to indicate how much of a problem they believed each issue was within their area on the following scale:

1. A large extent 2. To some extent

3. Not at all 4. Don't Know

The "problems" considered covered a wide range of issues, ranging from Abandoned Vehicles and Graffiti through to Kerb Crawling. As with the questions around victimisation, the most complete understanding of how an individual's perception of "problems" may influences their preferences for policing is likely to be achieved by

considering their attitude towards each issue via a separate variable. However, in a manner similar to the victimisation questions, this is not especially practical, given the number of issues considered and the skewed nature of many of the responses. It was, therefore, decided to create a binary variable combining all the responses provided to indicate whether a respondent perceived a higher than average level of problems (compared to the rest of the sample). This variable was calculated as follows:

1. A binary indicator was created for each issue. This grouped together "A Large Extent" and "To Some Extent" as one category and "Not at All" and "Don't Know" in the other[8].

2. The number of issues identified as a problem by each respondent was counted.

3. The sample mean of the count variable was calculated.

4. A variable indicating whether or not the number of issues identified by a given respondent was above or below the sample mean was then computed.

As with the creation of a single prevalence indicator for victimisation, it is possible to argue that this procedure results in a general variable which loses much of the rich detail present within the PAS dataset. However, this must be balanced against the need to try and ensure that the data used are sufficiently robust to allow analysis using statistical techniques which can be adversely affected by either highly skewed variables or outlying responses. Given the exploratory nature of this research it would appear preferable to have an indicator which can be reliably used within the models created, even if subsequent research may be required to follow-up any findings suggested.

[8] This was intended to indicate whether a respondent expressed an opinion that a particular issue was a problem in their local area. It was, therefore, decided to treat "Don't Know" responses as not expressing this attitude, i.e. if a respondent did not know whether an issue was a problem, it was assumed it was not a sufficient problem in their day-to day activities for them to have noticed it.

3.6 Possible Borough Level Explanatory Variables

In contrast to individual level variables (the choice of which is dictated by the PAS questionnaire) borough level explanatory measures can be taken from a range of sources. Once again, it is possible to discuss demographic indicators separately from those concerning perceptions, victimisation and police contact. Full details of the borough level explanatory variables which will be considered in subsequent analysis are provided in Appendix 3.3.

Borough level demographic measures are drawn from the 2001 Census. The measures selected mirror those which are to be considered at the respondent level. As such, there are indicators of an area's population in terms of age, ethnicity and social class. The Census represents the single largest collection of demographic information about the population of the UK. This near complete coverage of the population means that any indicators drawn from it are likely to provide a much more reliable indication of the nature of an area than can be gained from other sources (for a discussion of the Census, the extent of its coverage, and the strengths and weaknesses of the measures it provides, see Barnes 1997). Although based on Census data, these variables are coded to reflect the categories used in the individual level variables in the PAS dataset. Three further variables are calculated to describe the level of homogeneity the population exhibits in terms of age, social class and ethnicity. For each borough these measures provide the standard deviation across the categories used for the original variables. A larger standard deviation represents a more homogeneous population. For instance, a borough whose population is 25% "White", 25% "Black", 25% "Asian" and 25% "Other" would have a standard deviation of zero, while one where the population was completely drawn from one ethnic group would score 50.

In addition to the Census variables, which provide a basic description of a borough's population, average scores from the Index of Multiple Deprivation (IMD) will also be considered. Full details of the 2004 IMD can be found in ODPM (2004). In short,

IMD draws together a range of indicators (see ODPM, 2004, pp3-5) to describe an area in terms of seven domains:-

Income Deprivation

Employment Deprivation

Health Deprivation and Disability

Education, Skills and Training Deprivation

Barriers to Housing and Services

Crime

Living Environment Deprivation

Each area receives a measure on each domain, and an aggregate indicator, known as its Multiple Deprivation Score. This draws together its standing across the different domains (details of how the different domains are weighted in the aggregate measure can be found in ODPM, 2004, p5).

It is a borough's aggregate IMD score which will be considered in this research. Including the different IMD domains separately could be expected to provide more detailed research findings as it may be the case that different forms of deprivation influence policing priorities in different ways. However, this increased detail needs to be balanced against the fact that there are only 32 boroughs and this limits the number of explanatory variables which can be considered at this level. The inclusion of the aggregate IMD measure is, therefore, seen as an acceptable compromise in this exploratory research which should allow for at least an initial investigation of how area level deprivation may influence preferences for policing.

Beyond the absolute level of deprivation, it is possible that the spread of deprivation across a borough will influence preferences for policing. Such a finding would reflect

how levels of inequality have been shown to be related to patterns of crime and other criminal justice outcomes (Glover, 2008). To indicate the level of inequality within a borough, overall IMD rankings at ward level were used to calculate a Gini Coefficient showing the distribution of deprivation within each borough. Those boroughs which exhibit greater levels of inequality are associated with larger Gini Coefficients (Brown, 1994).

Using data from UK Borders (which provides a grid reference for the centre of each borough), indicators were calculated to show the position of each borough relative to the centre of the City of London. Two indicators measured a borough's location in terms of its position on the North-South and East-West axes. These measures will be used to try and locate any geographical clustering of preferences. For instance, do respondents from North London hold different preferences from those in the South? The final indicator of a borough's location measures a borough's distance from the centre of London (as the crow flies and measured in metres). This variable will be used to consider whether preferences for policing vary between those who live in central London and those who live in more suburban areas (in fitting with the existing criminological research that inner-city areas often exhibit different crime patterns, see Shaw and McKay, 1942 and Bottoms and Wiles, 1992).

While borough level demographic indicators are drawn from a source distinct from PAS, those concerning perceptions and experience of the police and crime will be created by aggregating individual responses within the PAS dataset. Using independent sources to provide data for explanatory variables at different levels within a model can be seen as the gold standard for multilevel modelling, as this approach will reduce dependency between measures at different levels and help in more easily disentangling the impact of different levels of explanation (Blakely and Woodward, 2000). Therefore, if it was possible, assembling a dataset where all borough level indicators are drawn from source distinct from PAS may be expected to provide the most robust dataset.

As discussed above, the PAS dataset is unique in how it combines a large sample size, detailed geographic indicators and a wide range of questions around the topics of victimisation, contact with the police and perception of a respondent's local area. Given the lack of a suitable alternative data source, borough level indicators around victimisation and perceptions of the local area will be created by aggregating the individual responses within the PAS dataset. These variables are known as "derived variables" and are often used in medical statistics, where, similar to this study, indicators need to be created which require detailed information that is only collected as part of a specific study (Diez Roux, 2004, p105). As noted in Table 3.1 there are 224 respondents within each borough. Therefore, each respondent will, on average, contribute only around one half of one percent of a borough's aggregate measure, meaning there is likely to be only minimal dependency between the variables measured at different levels. Therefore, while derived variables could be less robust than those drawn from a separate dataset, it can be argued that, in this research, the lack of independence will be extremely minor and is likely to have little, if any, impact on the models estimated. The use of aggregated measures can therefore be justified, especially as the alternative would be to have no borough level indicators for several important concepts. The following perception measures are created at a borough level by aggregating responses in the PAS dataset:

- Proportion of Respondents Experiencing Higher than Average Neighbourhood Problems
- Proportion of Respondents Satisfied with Local Area
- Proportion of Respondents who Fear Crime in Local Area
- Proportion of Respondents who Feel Safe When Out After Dark in Local Area

The information needed to create such measures is commonly collected via social surveys. While the BCS, British Social Attitudes Survey and General Household Survey all contain questions which might measure similar concepts to those listed above, they lack the geographic detail, or sample size, to allow their responses to be summarised at a borough level. In view of these difficulties aggregating responses

within the PAS dataset appears to offer the most appropriate method for creating aggregated perception measures.

In addition to aggregating the perception indicators, a borough level indicator of the proportion of respondents reporting conflictual contact with the police will also be calculated. As with the individual level indicator of this concept, the reliability of the measure is open to question given the small number of respondents who report such an experience. However, it could be that such a measure may provide an indicator of the level of "apparent unrest" within an area. Diez Roux (2004, p105) argues that aggregated measures may have a different impact on an outcome than their individual level counterparts. This would appear possible with the measure of conflictual police contact. While an individual who experiences such incidents may perceive the police as a nuisance and wish to see less policing, others (not directly involved in the incident) may perceive this as an indicator of underlying problems with the area and favour more policing to address these concerns.

The Metropolitan Police regularly publishes recorded crime figures at a borough level[9]. These data could have provided an indicator of the pattern of crime within a borough. However, the reliability of using recorded crime figures to represent the level of crime within an area has been widely questioned (summarised in Hough and Lewis, 1989, p16). This is principally because recorded crime figures will be influenced by the willingness of respondents to report particular crimes to the police (which may vary between areas). Crime surveys, such as the victimisation questions within the PAS, are often seen as an alternative to recorded crime statistics when looking at the level of crime within an area (Hough and Lewis, 1989, pp16-18). Therefore, aggregate prevalence rates based on the PAS dataset will be used to provide an indicator of crime at a borough level[10]. As with the individual level

[9] See http://www.met.police.uk/crimestatistics/ [last accessed 11/06/2008]

[10] These borough level measures are based on the responses to the questions concerning victimisation in a respondent's local area.

variable, it could be argued that a single measure of the prevalence of crime within an area will provide a simplistic measure of the concept being studied. However, as with the individual level measures discussed above, the ability to reliably create more disaggregated measures is limited by the scarcity of some crimes within the data, a problem exacerbated by the fact that each borough is represented by only 1/32nd of the overall sample. Having different indicators for different types of crime would also increase the number of borough level variables which would need to be considered, and, as will be discussed in Chapter Four, this could cause difficulties with only 32 cases being available at the borough level. Using a borough's overall prevalence rate as an indicator of its "crime problem" would appear a reasonable approach, especially given the exploratory nature of this work. Non-parametric correlations between the PAS-based indicator and recorded crime levels for each borough[11] show a relationship significant at the 0.05 level. This suggests that the chosen indicator is generally consistent with other possible measures which could have been employed.

3.7 Issues Involved in Establishing Causality

Oppenhiem (1996, pp12-13) argues there are two uses for survey data within the social sciences; description and the understanding of causation. The research reported here seeks to accomplish both. Firstly, those questions which ask respondents about their preferences for policing, both at a local level, and across London more generally (discussed in Section 3.4), will be used to describe the policing priorities held by Londoners. While, as noted above, it is possible to identify several ways in which these questions could be improved, the breadth of topics respondents are asked to consider, and the apparent representatives of the sample on which the survey is based, should mean that it is a highly appropriate tool for this purpose. However, the appropriateness of social survey data for explaining why different individuals express different preferences (i.e. establishing causality) would appear more contested (a

[11] Recorded crime figures based on data at http://www.met.police.uk/crimestatistics/ [last accessed 11/06/2008]

useful general discussion of the arguments is provided by Oppenhiem, 1996, pp13-18).

Duncan et al (2006, p1) identify three conditions which need to be met if causality is to be established in a social science investigation. Firstly, it is necessary to show an association between an outcome and a given explanatory factor, for instance between a respondent's age and their preferences for policing. As discussed extensively in the next chapter (and demonstrated in Chapters 7 and 8), a range of techniques exist to allow for the strength of an association between two, or more, quantitative indicators to be measured, and there is a long history of these techniques been applied to social survey data, such as the PAS dataset. Furthermore, specific techniques exist for estimating the relationship between explanatory factors measured at a neighbourhood level and outcomes measured at the individual level (a key issue in this thesis). The data contained in the PAS dataset therefore appear well suited to establishing associations between the characteristics of respondents, the neighbourhoods in which they live, and their preferences for policing.

While it may be a relatively trivial task to establish an association between different explanatory factors and outcomes present in the PAS data, the presence of an association need not necessarily imply causality. Indeed, an apparent association between two factors can occur for three distinct reasons. The first is, of course, that two factors manifest an association because a change in the status of one factor causes a change in another (i.e. causality is present). A second possibility is that the apparent association may be fortuitous;. It is this possibility which makes it so important to establish strong theoretical reasons for expecting a particular relationship to hold. For instance, with reference to the PAS dataset, it makes theoretical sense that older respondents will have a preference for more active policing because these respondents are generally more worried about the possible impact of crime on their lives, and see more policing as a way to address this concern and because of a huge literature demonstrating the presence of such age-related effects. In contrast, it would be much harder to come up with a sensible explanation linking two seemingly unrelated

factors. For instance, if an individual's preferences for policing were shown to be related to issues such as their favourite colour or food. Arguments about causality, which are based on associations located as present within the PAS data should therefore be supported by reference to theory or the results of previous research (such as that reviewed in the previous chapter).

The third reason why an association may occur between two factors is that both factors may be influenced by a third factor unconsidered by the analysis. In this case, the causality implied by the data would be a function of how the two factors under consideration were related to the third (exogenous) factor rather than as a result of any causal relationship between the two factors been directly considered (known as spurious association). This concern illustrates the second condition identified by Duncan et al (2006, p1), that if causality is to be established, it is necessary to rule out (or control for) all other possible explanations. Using a multi-causal model, which simultaneously considers how an outcome may be influenced by several different explanatory factors, should not only help to eliminate the risk of spurious association identified above, but, could also be expected to provide a more accurate estimate of the strength of any relationships which are present between explanatory factors and a given outcome. In reality, any outcome (such as an individual's preference for policing) is likely to be the result of many different, possibly inter-related, factors For instance, preferences for policing could be influenced by a respondent's age, social class and the structure of their family. However, these three factors could also be expected to be related.

It is only when the impact of all the relevant factors is assessed that the contribution of any single explanatory factor can be accurately estimated (the problem of omitted variable bias). The PAS dataset appears, for the most part, to be highly appropriate for estimating a multi-causal model (and hence addressing the concerns of spurious association and omitted variable bias). While the dataset may not include indicators for all the explanatory factors which could be included in a model, it does contain measures relating to the vast majority of possible explanations which were discussed in the previous chapter. In addition, the excellent range of questions within the PAS

questionnaire, which will allow for differences between individuals (in terms of socio-demographics victimisation and perception of crime and disorder) to be controlled for, should allow the impact of neighbourhood level factors to be more accurately identified.

The final condition that Duncan et al (2006, p1) argue is needed to support an argument for causality is that any change in an explanatory factor can be shown to precede a change in the outcome been considered. Evidence that the change in an outcome occurred before the change in a proposed explanatory factor would suggest that either a spurious association is present, or that the order of the proposed causality is back-to-front, with changes in the "outcome" causing a change in the explanatory factor. It is this condition which the PAS data has most difficulty in addressing. Establishing of the temporal ordering of changes in different variables is most reliably achieved using longitudinal data (where the same subjects are measured on repeated occasions). For instance, the existence of a longitudinal dataset which contained questions concerning both preferences for policing and experiences of victimisation would allow for a comparison of the attitudes held by a victim of crime before and after the event, and hence highlight the likely impact of victimisation on preferences for policing. In contrast, the PAS dataset is cross-sectional, and so only includes measurements at one point in time. The PAS data does contain some aspects of time, for instance, it asks respondents whether they have experienced crime in the twelve months prior to completing the survey. Therefore, assuming that the answers they provide to the questions concerning preferences for policing are representative of the attitudes they held at the point they completed the survey, the data can be used to support statements such as, "on average those respondents who have experienced victimisation in the preceding twelve months hold different preferences from those who have not". Such conclusions can support the implication of causality between victimisation and preferences for policing. However, without longitudinal data, which would allow us to consider whether a respondent held a particular attitude prior to their experience of victimisation (or whether the experience of victimisation caused them to change their attitude), statements about causality cannot be made with complete certainty.

3.8 Conclusions

While not ideal, the 2003-04 PAS dataset appears well suited to this research. Its focus on policing means it contains many more relevant variables than would be present in other data sources. For instance, it includes separate questions concerning preferences for policing at local and city-wide levels, and explanatory variables concerning victimisation and conflictual contact with the police.

The size of the PAS sample allows the application of advanced statistical techniques which should allow a better understanding of the complex patterns within the dataset. The PAS sampling strategy ensures that respondents are drawn from across London. This is important because it ensures that respondents will come from a range of different social contexts, allowing an investigation of how preferences for policing vary between areas. The dataset includes several geographic variables, namely postcode, electoral ward and borough which allows a respondent's neighbourhood characteristics to be identified. Once again, this represents a major strength of the PAS dataset.

The usefulness of survey responses for investigating the public's preferences for policing is open to question. Firstly, it is by no means certain that respondents will have the necessary knowledge to answer questions in a way which accurately reflects what they believe the police should be doing. Instead, respondents may rely on a symbolic image of policing or an attachment to certain easily identifiable approaches to policing when deciding which activities they favour. For instance, support for visible patrolling could be the result of how the public observe this activity in their day-to-day life, something which is not possible with many other approaches to police work. While it is important to be aware of the potential limitations of responses to PAS, it is no less important to remember that an understanding of the policing preferences held by different groups of the population is likely to be of policy interest, irrespective of why respondents express the opinions they do.

The main drawback of the questions designed to measure preferences within PAS is that they contain no constraints to prevent a respondent attaching a high level of importance to all types of policing. This has the potential of reducing the policy relevance of any conclusions as a respondent's preferences are being presented without consideration of the resource constraints within which the police operate. However, this need not necessarily prevent the answers being used to gain an impression of the priorities held by different respondents, information which is still likely to be of interest to those who wish to gain an insight into the public's expectations of the police. It could for instance be interesting to find out which groups within the population are particularly likely to attach high importance to all policing functions.

One final concern about using an existing dataset for this analysis is that the range of respondent characteristics across which policing preferences can be compared is constrained by the questions which were included in the original questionnaire. For instance, there are no questions within the PAS data about a respondent's income or level of education. However, this must be balanced against the fact that the dataset contains many more questions exploring the topics of victimisation, police contact and perceptions of a respondent's neighbourhood than are found in most other social surveys.

The link between respondents and their social context will be established by introducing indicators relating to the borough in which a respondent lives. The decision to use boroughs to represent neighbourhoods is made on the grounds that they are a key geography within London with which many people identify and due to the relative ease with which indicators of neighbourhood level explanatory factors can be found for this geography.

A broad range of neighbourhood level indicators will be included in the analysis. The choice of indicators reflects a wish to consider not only the impact of socio-demographic factors, but also the impact of an area's crime level and the attitudes held by the population who live there. As described above, it would be ideal if all the borough level indicators were drawn from sources distinct from the PAS dataset. Unfortunately, this was not possible because no other source covers victimisation or perceptions of crime with the level of detail present in the PAS dataset.

The PAS sample size should ensure that any borough level estimates will be robust and not unduly influenced by the response of any given respondent. This means that the use of aggregated PAS data to represent borough level explanatory variables is unlikely to create further methodological challenges for this research.

Despite the apparent limitations of the dataset, it appears to broadly meet the requirements set out at the start of this chapter. It is also important not to overstate these limitations, especially given the exploratory nature of much of this analysis. Indeed, identifying limitations of the existing data, and highlighting issues to be addressed in future survey designs, represents one potentially useful output from this study.

APPENDIX 3.1: SAMPLE DETAILS FOR PAS DATASET

(Reproduced from MVA, 2004, Appendix B[12])

	Unweighted %	Weighted %
Sex		
Male	48	46
Female	52	53
Age		
15-17	4	4
18-21	5	5
22-24	8	7
25-34	22	21
35-44	20	20
45-54	13	12
55-64	12	13
65-74	9	11
75-84	5	6
85+	1	1
Social grade *(definitions follow)*		
A	3	3
B	13	13
C1	31	31
C2	23	22
D	12	12
E	17	19
Working status		
Full-time (30hrs/week+	50	43
Part-time (8-29 hrs/week	3	4
Not working (under 8 hrs)	1	1
Houseperson	10	12
Retired	19	23
Registered unemployed	7	8
Unemployed but not registered	1	1
Student	8	9
Other	1	1
Marital status		
Married/living as married	51	51
Single	34	33
Widowed/divorced/separated	15	16
Home ownership		
Own outright	23	24
Buying on mortgage	30	29
Rent from Council	23	23
Rent from Housing Association	9	9
Rent from private landlord	12	12
Other	3	6

[12] Figures for "Presence of young people in household" do not total 100%. Figures for households having a person under 22 (the variable used in this analysis) based on the dataset provide are Unweighted 45.00, Weighted 45.49.

Presence of young people in household		
Age 0-5	16	9
Age 6-9	13	9
Age 10-14	14	14
Age 15-17	11	16
Age 18-21	12	12
None under 22	55	10
Ethnic origin		
White - UK	64	63
White - Irish	2	2
White - Greek/Cypriot	1	1
White - Turkish/Cypriot	1	1
White - other European	3	3
White - other	2	2
Asian - India	5	6
Asian - Pakistan	3	3
Asian - Bangladesh	3	3
Asian - Africa	1	1
Asian - China/Far East	1	1
Asian - UK	1	1
Asian - other	2	1
Black - Caribbean	4	4
Black - Africa	4	4
Black - UK	3	3
Black - other	0	0
Other	2	2
Religion		
Roman Catholic	11	11
Church of England	34	34
Presbyterian	0	0
Methodist	1	1
Baptist	0	0
Muslim	9	9
Sikh	1	1
Hindu	3	3
Jewish	1	1
Atheist	1	1
Agnostic	1	1
Other	6	6
None	27	27
If have disability		
Yes, have disability	7	8
No, none	93	92
Sexuality		
Gay/lesbian	1	1
Bisexual	0	0
Transgender	0	0
None of these	93	94
Refused	6	5

APPENDIX 3.2: RESPONDENT LEVEL EXPLANATORY VARIABLES

All variables taken from the 2003-04 Metropolitan Police Public Attitude Survey Dataset.

Gender of Respondent	Weighted Percentage of Respondents
Male	46.47
Female	53.53

Age of Respondent (in Years)	Weighted Percentage of Respondents
15-24	16.77
25-44	41.16
45-64	25.54
65 and over	17.53

Ethnicity of Respondent	Weighted Percentage of Respondents
White	71.39
Black	10.84
Asian	11.96
Other	5.81

Social Class of Respondent	Weighted Percentage of Respondents
A/B	15.44
C1/C2	53.58
D/E	30.99

Respondent's Marital Status	Weighted Percentage of Respondents
Single	32.49
Married/Living as Married	51.07
Separated/Widowed/Divorced	16.44

Housing Tenure of Respondent's household	Weighted Percentage of Respondents
Own/Mortgage	52.81
Renting	43.70
Other	3.49

Respondent's Household Own at Least One Car	Weighted Percentage of Respondents
No	33.83
Yes	66.17

Respondent's Household Has at Least One Member Under 22 Years of Age	Weighted Percentage of Respondents
No	54.51
Yes	45.49

Respondent Has Experienced Victimisation Within Last Twelve Months	Weighted Percentage of Respondents
No	86.19
Yes	13.81

Respondent Has Experienced Conflictual Contact with the Police Within Last Twelve Months	Weighted Percentage of Respondents
No	98.72
Yes	1.28

Respondent Has Lived in Local Area For Less Than Twelve Months	Weighted Percentage of Respondents
No	90.74
Yes	9.26

Respondent Expresses Satisfaction with Local Area	Weighted Percentage of Respondents
No	24.88
Yes	75.12

Respondent Expresses a Fear of Crime	Weighted Percentage of Respondents
No	57.13
Yes	42.87

Respondent Feels Safe When Out Alone in Local Area After Dark	Weighted Percentage of Respondents
No	51.07
Yes	48.93

Respondent Identifies A Range Neighbourhood Problems Within Their Local Area Greater Than the London Average	Weighted Percentage of Respondents
No	49.16
Yes	50.84

APPENDIX 3.3: BOROUGH LEVEL EXPLANATORY VARIABLES[13]

Measure	Source	Mean	Standard Deviation
Proportion of Respondents Experiencing Higher than Average Neighbourhood Problems	Aggregated PAS	50.23%	19.27
Proportion of Respondents Satisfied with Local Area	Aggregated PAS	75.31%	10.01
Proportion of Respondents who Fear Crime in Local Area	Aggregated PAS	42.26%	11.12
Proportion of Respondents who Feel Safe When Out After Dark in Local Area	Aggregated PAS	47.86%	12.87
Proportion of Respondents who have Experienced Conflictual Contact with the Police	Aggregated PAS	0.89%	0.81
Proportion of Respondents who Have Been a Victim of Crime in the Last 12 Months	Aggregated PAS	14.09%	5.45
Proportion of Population in Asian Ethnic Groups	2001 Census	11.76%	9.83
Proportion of Population in Black Ethnic Groups	2001 Census	10.51%	7.64
Proportion of Population in White Ethnic Groups	2001 Census	71.85%	13.52
Proportion of Population in Other Ethnic Groups	2001 Census	5.87%	2.04
Ethnic Homogeneity (S.D of Ethnicity across 4 categories)	2001 Census	32.11	7.96

[13] All borough level variables were z-scored prior to analysis to try and limit any effects which may result from how different concepts were measured using different scales.

Proportion of Population Aged 24 and Under[14]	2001 Census	22.13%	2.53
Proportion of Population Aged Between 25 and 44	2001 Census	40.71%	4.62
Proportion of Population Aged Between 45 and 64	2001 Census	22.92%	2.92
Proportion of Population Aged 65 and Over	2001 Census	14.23%	2.58
Homogeneity of Age Distribution (S.D of Age across 4 categories)	2001 Census	11.41	3.01
Proportion of Population in Social Classes A and B	2001 Census	26.57%	6.49
Proportion of Population in Social Classes C1 and C2	2001 Census	43.80%	3.59
Proportion of Population in Social Classes D and E	2001 Census	29.63%	6.09
Homogeneity of Social Class (S.D of Social Class across 3 categories)	2001 Census	10.99	2.93
Index of Multiple Deprivation Score	ODPM 2004	0.02	0.75
Inequality of Deprivation (Gini Co-efficient of IMD Ranking across Wards)	ODPM 2004	0.27	0.13
Proportion of Respondents who Have Lived in Area for Less Than 1 Year	Aggregated PAS	9.06%	3.51
Population Density (People per Hectare)	2001 Census	60.97	30.34

[14] This variable covers those aged 10-24. The inclusion of individuals who are younger than were eligible to participate in PAS is intended to reflect how concern about the behaviour of young people may influence preferences for policing.

CHAPTER 4: STATISTICAL METHODS

The analysis intended for this thesis presents two main methodological challenges. Firstly, it is necessary to try and combine the answers to the separate questions discussed in the previous chapter into a single, more complete, indicator of a respondent's preference for policing. Secondly, it is important to try and accurately estimate how respondents' preferences may be related to the nature of the neighbourhood in which they live. This chapter outlines different statistical techniques which could be used to address these issues. The strengths and weaknesses of these different methods are considered with reference to the data discussed in Chapter Three. It is concluded that latent class analysis provides the most appropriate way of combining a respondent's attitudes towards different policing tasks into a single indicator. In terms of accurately identifying the impact of neighbourhood characteristics on preferences for policing, multilevel modelling would appear the most appropriate technique. However, the decision to use boroughs to represent a respondent's neighbourhood means there are only 32 unique cases at the area level. This raises concerns about how reliably multilevel models can be estimated. Therefore, a limited version of multilevel modelling (which uses clustered standard errors to account for the non-independence of cases) will be used alongside ecological (borough level) regression models to present an initial insight into how preferences for policing may be influenced by locality.

4.1 The Need to Measure Preferences for Policing (a Latent Concept)

As shown in Chapter Two, existing research on priorities for policing typically employs one of two types of dependent variable. Firstly, the importance a respondent attaches to different policing functions is considered separately (see FitzGerald et al, 2002 or Nicholas and Walker, 2004); alternatively, studies use an indicator of the overall level of policing respondents wish to see (Salmi et al, 2005).

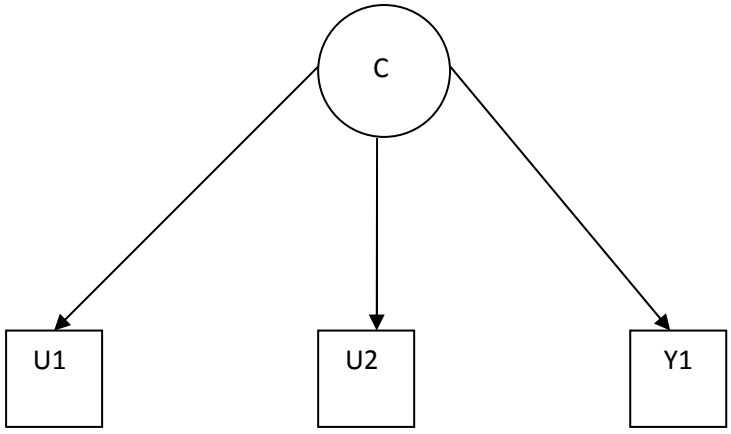
Both of these measures have drawbacks, which means that they do not present a complete picture of the importance individuals attach to different aspects of policing.

Those measures which consider each policing function separately fail to take account of the fact that many policing functions are closely related. Therefore, the importance a respondent attaches to one policing function is likely to be strongly correlated with their attitudes towards other functions. Furthermore, it is possible that a respondent's attitude towards a specific policing task will be indicative of their wider desires for policing. For example, a wish to see increased consultation with the public may be indicative of support for wider community policing.

Measures of the overall importance respondents attach to policing can be seen as simplistic because the police undertake many different roles, and it is likely that different individuals will attach different levels of importance to different tasks. This heterogeneity of preferences becomes lost in a single overall measure. An ideal indicator of preferences towards policing will combine aspects of both measures commonly used in existing research. It should provide an indication of the overall level of importance respondents attach to policing, while also illustrating how their attitudes towards different functions are related.

Figure 4.1 presents a path diagram to illustrate the idea outlined above. This notation will be used throughout the remainder of this Chapter and can be understood as follows. A square represents an indicator or measured variable; this is any piece of information which is directly observed, for example a respondent's answer to a question in the PAS dataset. These indicators may be either continuous (shown by a letter "y") or categorical (shown by the letter "u"). Circles represent latent variables. Latent variables can be considered hypothetical constructs that provide an indication of a more general underlying concept such as quality of life or preferences for policing. A single latent variable is commonly "measured" using several indicators and the links between these are shown by arrows. For instance, in Figure 4.1, three different measurements (two categorical and one continuous) contribute to the estimation of a single latent variable. In this thesis, an individual's preference for policing is taken to be a latent concept which is "measured" through the responses they provide for each of the policing tasks considered in the PAS questionnaire.

Figure 4.1: An Example of Basic Latent Modelling Notation



Based on the notation used in Muthen and Muthen, 2005.

As they are commonly based on several indicator variables, latent constructs can simplify data and help with the identification and understanding of any underlying patterns. However, it should be remembered that latent variables are statistical constructs created with the aim capturing as much of the variation present in the original data as possible. There are no precautions built into the techniques to ensure that the relationships they suggest are logical or theoretically appropriate. Therefore, as with all data reduction techniques, it is important to consider any results within the context of existing research and theoretical expectations.

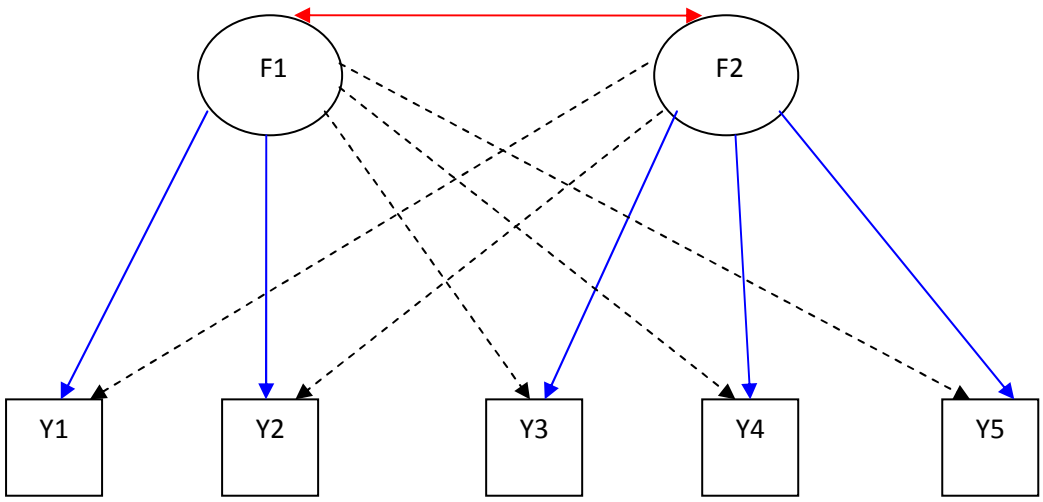
Within the social sciences, two different, but related, latent variable techniques prevail, namely factor analysis and latent class analysis. Although these techniques are related, and both will be employed in this research, they are based on different premises. Factor analysis focuses on the relationships between variables and attempts to summarise these into a smaller number of indicators known as "factors". In contrast, latent class analysis involves taking all available variables and grouping together similar cases (analogous to traditional cluster analysis).

4.1.1 Factor Analysis

The primary objective of factor analysis is to identify relationships between a large number of variables and to summarise these in to a smaller number of measurements. Within factor analysis two main groups of techniques can be identified. Confirmatory factor analysis (CFA) aims to test whether the relationships within a dataset match preconceived expectations; for example, whether a set of factors can be identified that match those found in previous research (for details see Brown, 2006, pp1-5). In contrast, exploratory factor analysis (EFA) involves looking for commonalities between variables without any reference to prior expectations. It is then the responsibility of the researcher to decide how any factors should be interpreted. Chapter Two highlighted how there is little existing research on the relationships between how respondents perceive different policing tasks. Therefore, it is the EFA approach which is most appropriate for use in this thesis. If, as expected, an individual's attitude towards different policing functions suggests an underlying belief about how the police should act, then it should be expected that the policing functions linked together through factor analysis will be related in substantive terms. For instance, it might be expected that two questions relating to the level of police patrolling in a respondent's local area might load on to a single factor.

There is a large literature about EFA, describing its uses and how it should be implemented (see Brown, 2006, pp12-39, Loehlin, 2004, pp152-213 and Thompson, 2004, pp27-48). Therefore, this discussion will concentrate on the strengths and weaknesses of EFA for establishing if respondents' attitudes towards individual policing tasks are related in a way which might see them represent some underlying belief about priorities for policing.

Figure 4.2: A Basic Exploratory Factor Model (2 Factors and 5 Indicators)



Based on the notation used in Muthen and Muthen, 2005.

Figure 2.2 shows an EFA model consisting of five indicator variables (pieces of measured data) which load on to two factors. One key feature of an EFA model is that any given indicator can contribute to more than one factor (arrows run from each indicator variable to both factors "F1" and "F2"). However, indicators will generally load extensively on to a particular factor, and it is these loadings which should be considered when trying to decide if a factor represents a useful underlying concept. In Figure 2.2, these major loadings are illustrated by the blue arrows while potentially less important relationships are shown by the dashed arrows. Depending on the rotation method used to identify factor loadings (see Brown, 2006, pp30-36), it is possible that an individual's score on each factor may also be correlated, as indicated by the red arrow in Figure 2.2.

In general, the statistical assumptions associated with an EFA model are less strict than for many other statistical techniques. Indeed, given the primary aim of the technique is to identify relationships between variables, multicoliniarity can be seen as necessary for the development of an EFA model (Hair et al, 1998, p99). Hair et al (1999, p99) also suggest that a ratio of at least ten cases to each variable is required to

accurately estimate a factor analysis model. The sample size of the PAS dataset easily meets this requirement.

Traditionally, factor analysis was only suitable for use with continuous variables or ordinal indicators which involved a large number of categories and a relatively even spread of cases. However, a range of techniques have been developed to conduct EFA on categorical data (summarised by Mislevy, 1986). These approaches range from conducting traditional Thurstonian factor analysis, but using a matrix of tetrachoric (rather than Pearson) correlations through to the use of maximum-likelihood estimation. Applying factor analysis to a matrix of tetrachoric correlations can lead to misleading results because the strength of relationships between variables may be influenced by how the original variables are constructed (for instance, their mean values and the positioning of thresholds between categories, see Mislevy, 1986,pp9-10). Maximum-likelihood methods, which rely on numeric integration (Mislevy, 1986, p20), are generally very computer intensive. In view of the issues involved in using other techniques, the EFA models in this thesis will be conducted using the Weighted Least Squared Approach described in Muthen (1984) and Muthen and Satorra (1995). Results provided via WLS estimation are very similar to those provided by Maximum-likelihood methods (Gibbons, 1984) but, using WLS is considerably less computer intensive. Given that the use of EFA in this research is a forerunner to the subsequent Latent Class modelling (which will provide the focus of the substantive analysis), it would appear reasonable to use the much less resource intensive WLS approach[15].

Beyond choosing an estimation routine, a choice needs to be made around which form of factor rotation will be applied to any factors identified in the EFA models. Brown (2006, p31) defines factor rotation as "a mathematical transformation….that is undertaken to foster interpretability by maximising factor loadings close to 1.0 and minimising factor loadings close to 0.0." Two types of rotation exist, orthogonal and oblique. Orthogonal rotation (commonly implemented through the Varimax procedure) sees factors constrained so they are not correlated with each other. Orthogonal rotation can be seen as helping to produce a solution which can be easily interpreted because the factor loadings provide a direct measure of the correlation between any latent factors and the underlying indicator variables. However, ensuring that factors are uncorrelated would appear unrealistic in this research because it is

[15] Full details of how categorical variables are handled by the MPlus software are given in appendix 4.1

possible that a respondent who attaches a high level of importance to one approach to policing for instance Community Policing, could also attach high importance to other forms of policing. This would be represented through positive correlations between factors. Oblique rotation, which allows the factors uncovered to be correlated, will be used in this research. In particular, MPlus implements oblique rotation through the Promax routine. Where a respondent's position on one factor is uncorrelated to his or her score on other factors, Promax rotation will provide results virtually indistinguishable from those of Varimax rotation. The use of Promax rotation can therefore be seen as a conservative choice because if respondents' preferences for different approaches to policing are correlate then this can be measured, but if attitudes are not correlated across functions this approach should still yield reliable results.

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One advantage of the implementation of factor analysis within MPlus is that the software is capable of handling missing data. When considering categorical variables, this is achieved through the use of pair-wise deletion alongside weighted least square estimation (Professor Linda Muthen, MPlus Discussion Board, February 2007). This ability to handle cases with missing data means that factor analysis can be applied to the data used in this thesis with little impact on the overall number of cases available for analysis.

At the time this analysis was conducted MPlus[16] did not allow details of how a case ranked on each factor identified by an EFA model (so called "factor scores") to be saved for further analysis. Instead, if factor scores were required, then it was necessary to either use the results from the EFA model as the basis for creating a CFA model, or to conduct an EFA analysis within a CFA framework (for details see Brown, 2006, pp193-202). Although this limitation did not preclude using an EFA model to develop indicators of respondents' underlying preferences towards policing, it did mean that any wish to use these results as the basis for subsequent analysis would have required more complex and time consuming models to be created.

The criteria for deciding how many factors should be extracted during factor analysis is an area of considerable debate (Brown, 2006, pp23-30, Hair et al, 1998, pp103-106

[16] This was the case with MPlus Version 4.2 used for this analysis. MPlus Version 5.0 now makes it possible to save factor scores from an EFA model.

and Loehlin, 2004, pp164-168). As Loehlin (2004, p164) argues, selecting an inappropriate number of factors "can lead to quite different interpretations of the causal structure underlying the observed correlations". Firstly, there is a role for subjective decision-making. If the factors identified are expected to represent support for broad approaches to policing, then it is important that the tasks associated with a particular factor form a substantively meaningful grouping. For instance, a factor involving the two questions about visible policing in a respondent's local area would make sense, while one linking one of the visible policing questions with police action to reduce noise would be harder to interpret.

Beyond subjective interpretation, a range of statistical criteria have been suggested to try to identify how many factors are required to accurately capture patterns within a dataset. Three criteria appear to predominate in the literature; the Kaiser-Guttman rule, the scree-test and parallel analysis. All three of these methods rely on the interpretation of the eigenvalue associated with a given solution. Eigenvalues provide an indication of the amount of variance explained by a factor analysis model. As the number of factors included in a model increases, eigenvalues will decrease. The Kaiser-Guttman rule (also known as the latent root criterion) involves selecting the last factor solution to have an eigenvalue greater than one. Hence if a two factor solution has an eigenvalue of 2.5, a three factor solution has an eigenvalue of 1.2 and the four factor solution an eigenvalue of 0.8 then the three factor solution would be considered the favoured choice. The logic behind this approach is that a single variable has an eigenvalue of one. Therefore, any factor with an eigenvalue below one can be considered to explain less variance than a single indicator variable (Brown, 2006, p27). It has however been shown that, when considering a model with less then 20 indicator variables (as is the case in this research), this method is likely to provide a conservative estimate of the number of factors required (Hair et al, 1998, p103).

The scree-test (proposed by Cattell, 1966) involves plotting the eigenvalues for each solution against the number of factors extracted and looking for the point at which this plot becomes flat. Variance identified by a factor can be divided between "common variance", that which is shared between variables, and "unique variance", which is associated with just one variable. At the point the scree-plot flattens out, the unique

variance will dominate the common variance and hence the amount of communality explained by a factor will be relatively small. The number of factors suggested by a scree-test is generally slightly in excess of that identified by the Kasier-Guttman method (Hair et al, 1998, p104). This provides some evidence to support the view that the Kaiser-Guttman method may suggest a conservative factor solution.

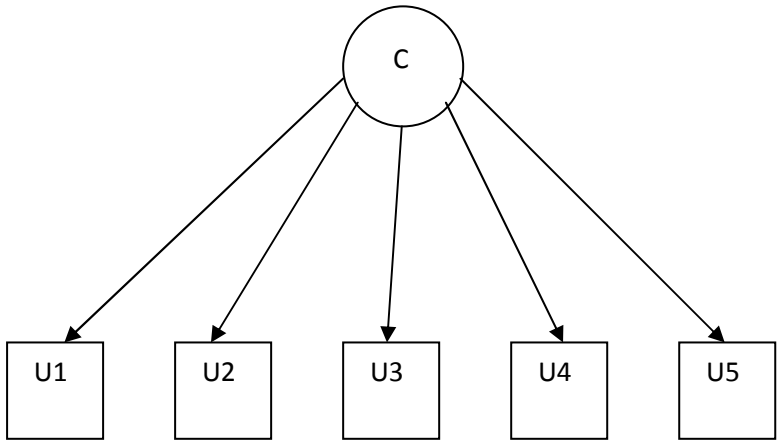
Horn (1965) has suggested comparing the eigenvalues associated with a range of factor solutions with those that are achieved by conducting a factor analysis of a dataset, which, while it has an identical structure to the original dataset, is constituted by randomly generated figures. Any solution using the original data which has an eigenvalue greater than the corresponding solution for the randomly generated data can be considered to explain a useful amount of variance. Once a model's eigenvalues fall below those associated with random data, the variance explained by the new factor may be attributable to noise within the data. Therefore, it is possible to argue that these factors add little interpretive power to the analysis (Brown, 2006, p27). In order to increase the reliability of this approach, the eigenvalues associated with the randomly generated data should be averaged across several datasets (Loehlin, 2004, p168). This can make this method time consuming to implement.

An EFA model would appear to provide a useful method for identifying whether there is any commonality between the responses individuals provide when assessing the importance they attach to different policing tasks. Depending on the relationships identified, this could provide evidence of whether or not individual's attitudes towards specific policing functions reflect some underlying belief about how the police should operate (addressing Hypothesis 1 in Chapter 2). Individual's factor scores would provide an indication of the level of importance they attach to different approaches to policing. Factor scores are continuous variables, the analysis of which is less problematic in multilevel modelling (compared to analysis with ordinal or multinomial dependent variables). This would mean that modelling factor scores in any subsequent analysis concerned with which explanatory variables influence differences in preferences might be easier than modelling the original ordinal or binary responses (see Twisk, 2006, pp46-47).

4.1.2 Latent Class Analysis

Latent class analysis (LCA) can be seen as analogous to cluster analysis, in that it aims to group together cases on the basis of shared observed characteristics (see Magidon and Vermunt, 2004, for a brief introduction or McCutcheon, 1987, for more technical detail). For instance, in this thesis, the intention is to group together individuals who favour similar approaches to policing. The general approach to policing favoured by a respondent (the latent construct) will be estimated based on their attitude towards specific policing tasks (the observed indicators). LCA models are not subject to the same assumptions as normal cluster analysis. In particular, it is possible to construct models based on categorical indicators such as the survey responses being considered in this research (McCutcheon, 1987, p7)[17]. Figure 4.3 shows a simple LCA model consisting of five categorical indicator variables and one categorical classification (latent) variable.

Figure 4.3: A Basic LCA Model with Five Categorical Indicator Variables



Based on the notation used in Muthen and Muthen, 2005.

[17] Full details of how categorical variables are handled by the MPlus software are given in appendix 4.1

The central premise of LCA is that any sample (or population) is likely to contain several subpopulations (members of which are similar in terms of the issue under investigation). Furthermore, while it may not be possible to observe which subpopulation a given individual belongs to, this can be estimated based on observed characteristics. For instance, in terms of this research, it is likely that within the PAS dataset there will be groups of individuals who hold shared beliefs about how the police should spend their time. While no single question exists to identify which group an individual belongs to, this can be estimated using the answers provided to the questions concerning respondents' attitudes towards different policing tasks. The aim of grouping together respondents marks a key difference from factor analysis (which involves grouping together variables that share co-variance). This focus on individuals would seem particularly relevant to this thesis, as the central research issue concerns respondents and how their priorities for policing are influenced by the context in which they live.

The group (or class) that an individual belongs to is treated as missing data. A model involving a respondent's survey answers (observed data) and preference group membership (missing data) is estimated via the maximum-likelihood EM algorithm (Muthen, 2001). One advantage of this technique is that, because it is designed to work with incomplete information, individuals who have answered some but not all of the relevant survey questions can still be included in the model. An LCA model estimates two types of parameters. Firstly, each individual is provided with an estimate of their probability of appearing within each class identified by the model. Secondly, estimates of each class's average score on each observed indicator variable (in this case, survey answers) are provided. The first of these estimates provides a guide as to which preference mix (class) within the model best represents the attitudes of an individual respondent, and how well their preferences match this group. The second estimate provides an overview of the attitudes held by those within a particular class.

One potential drawback of using the EM algorithm to estimate an LCA model is that the characteristics of the final solution are dependent on the starting values used to initialise the procedure (Muthen, 2001). It is therefore possible that while a solution

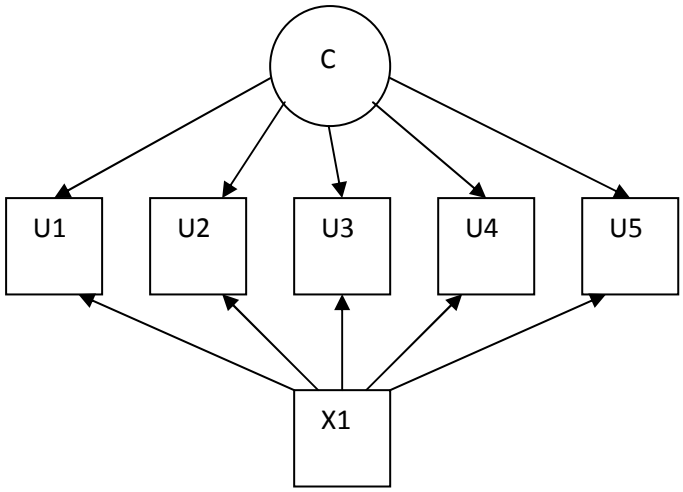
might represent the optimal log-likelihood value for the start values used, a better solution (i.e. one with a lower log-likelihood value) may be achieved by using a different set of starting values. Finding a latent class solution which can be reached from a range of different starting values (known as a global maxima) is therefore seen as an indication that the solution is robust and not simply a function of the starting values employed. To address this concern, it is considered good practice to run each LCA model multiple times using different starting values. If several different sets of starting values converge on the same solution this suggests this represents a global maxima.

MPlus allows users to specify how many different sets of starting values they wish to be tested when estimating an LCA model (these starting values are provided by a random number generator). Each LCA model in this thesis is based on 4000 sets of starting values, each of which was subjected to ten interactions of the estimation procedure. Estimation the continues on the 500 sets of starting values which have provided the lowest log-likelihood values after the initial ten stages of estimation until the EM algorithm converges on a solution. All of the models presented in Chapters Five and Six represent global maxima which were arrived at from multiple sets of starting values.

In addition to identifying respondents' class membership based on their survey responses, an LCA model allows an individual's class membership to be related to other covariates. In this research, once groups of respondents who hold similar views on policing priorities have been identified, membership of these groups can be related to other information known about the respondents; for instance, their age, gender, victimisation history and the nature of the neighbourhood in which they live.

Covariates can enter an LCA model in two ways. Firstly, it is possible that they may have a direct impact on the indicator variables being used to construct the LCA model (as shown in Figure 4.4 where x1 represents a continuous covariate). For instance, respondents' attitude towards different forms of policing could be modelled on their age, gender and social class before the LCA model is created. When employed in this way, covariates will influence the profile of preferences represented by each class.

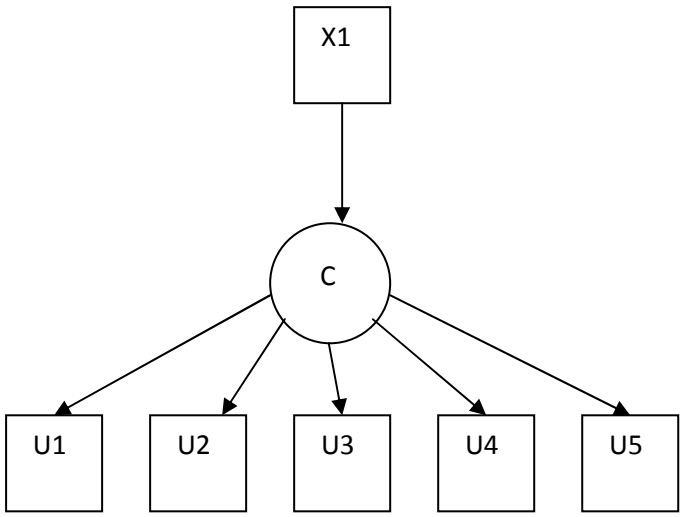
Figure 4.4: A Covariate Directly Influencing Indicator Variables in an LCA Model



Based on the notation used in Muthen and Muthen, 2005.

The second way covariates can enter an LCA model (and the most common in the applied literature) is that they can be used to model the probability of an individual appearing in a particular class (as shown in Figure 4.5). In this analysis, the LCA solution is used to summarise respondents' answers across all the questions which measure preferences for policing, and the covariates provide an indication as to whether or not respondents with particular characteristics (such as a particular age or gender) appear more likely to hold a particular mix of preferences (represented by their membership in a given class of the LCA model). In this thesis, it is this second use of covariates which will be employed.

Figure 4.5: A Covariate Influencing the Probability of an Individual Appearing in a Given Class of an LCA Model



Based on the notation used in Muthen and Muthen, 2005.

The results of models which link the probability of a respondent appearing in a particular class to covariates which describe their characteristics are commonly presented as a multinominal regression model, where the probability of membership of different classes is expressed relative to one class, which is treated as the reference group. Although the results of this analysis are presented as a multinominal regression, the underlying calculations are based on respondent's probability of membership for each class. This allows the method to take account of the fact that, while a respondent's survey answers may suggest they are very likely to appear in one preference mix, there is also a lesser possibility that they could appear in one, or more, other groups. This is valuable since it removes measurement error that would be introduced if respondents were simply placed in the preference mix in which they were most likely to appear.

As with factor analysis, there is a long-running debate on how to identify the optimal number of latent constructs (in this case, classes) needed to accurately represent the underlying patterns in a dataset. A range of alternative statistical measures has been suggested and many of these are described and compared in a recent simulation study by Nylund et al (2007).

Each latent class solution is accompanied by a log-likelihood statistic. Comparing log-likelihood measures across models is a commonly used technique for deciding which model best fits the data under investigation (see for instance Long and Freese, 2003, pp90-91, with reference to regression models). The standard log-likelihood test for comparing two models is,

$$LR = -2[\log L(\hat{\theta}r)] - [\log L(\hat{\theta}u)] \qquad (4.1)$$

Where $\hat{\theta}r$ is the solution of the restricted model (i.e. the one with more classes) and $\hat{\theta}u$ is the solution of the less restricted model. The number of degrees of freedom for this test is equal to the difference in the number of parameters involved in the restricted and unrestricted models. The outcome of equation 4.1 is compared to the chi-squared distribution with the appropriate number of degrees of freedom to indicate if the restricted model demonstrates a significantly improved fit with the data.

Unfortunately, comparing log-likelihood values between models is not appropriate when considering latent class solutions with differing numbers of classes. In this case, the difference between log-likelihood measures does not follow the chi-squared distribution (MacLachlan and Peel, 2000) and using a traditional log-likelihood comparison is likely to lead to erroneous results. The results of Nylund et al (2006, p554) indicate that the problems associated with using this test increase with larger sample sizes. As this study involves in excess of 7000 cases this test could be expected to be of limited reliability.

While it is not possible to directly compare log-likelihood measures between LCA solutions, they can provide a subjective indicator of model fit (Nylund et al, 2007,

p565). The more classes are involved in an LCA solution the lower the log-likelihood value will be. However, the change in log-likelihood will become progressively less the more classes are added (i.e. the change from one class to two classes will be greater than the move from two to three classes). When inspecting a plot of the log-likelihood measures associated with LCA solutions which involve different numbers of classes, it is possible to identify a point at which the change in the log-likelihood begins to flatten out (as with the eigenvalue plot commonly used in factor analysis). This point represents the model beyond which it could be argued that additional classes add little to the overall model fit.

The most commonly used indictors for deciding the optimal number of classes in applied LCA research are the Akaike and Bayesian Information Criteria (AIC and BIC). For any given LCA solution, these indicators adjust the log-likelihood value by introducing a penalty for the number of parameters within the model. These adjustments penalise models with more classes meaning that the AIC or BIC value for a model may increase as more classes are added (this is in contrast to the normal log-likelihood, which always falls as models involving more classes are considered). Information criteria are calculated for a range of modes (incorporating different numbers of classes) with the model providing the lowest value representing the optimal solution. The AIC is defined as,

$$AIC = -2\,logL + 2\,p \qquad (4.2)$$

where logL is the log-likelihood of the solution under consideration and p is the number of free parameters in the model (Akaike, 1987).

The BIC is calculated as,

$$BIC = -2\,logL + p\,ln(n). \qquad (4.3)$$

where p once again refers to the number of free parameters in the model and n is the sample size (Schwartz, 1978).

An alternative metric for the sample size can be introduced to the BIC to calculate the Adjusted BIC (ABIC, equation 4.4), which is intended to favour more parsimonious solutions (i.e. those with less classes) when using a large sample size.

$$ABIC = -2\ logL + p\ ln((n+2)/24). \quad (4.4)$$

The simulation results in Nylund et al (2007, p556) suggest that the performance of the AIC indicator decreases as the sample size increases. This finding is unsurprising given the AIC formula does not include any adjustment for sample size. In general, as the sample size increases, the AIC appears to over-estimate the number of classes required to accurately represent the data. In addition, Nylund et al (2007) and Yang (2006) argue that the AIC performs less well when considering models based on categorical rather than continuous variables (as is the case in this thesis).

The ABIC has been shown to perform well across a variety of contexts (Yang, 2006), and both the BIC and ABIC indicators perform well in the study of Nylund et al (2006, p557). As with the AIC, the available evidence suggests that when these indicators fail to identify the correct solution, they tend to over-estimate the required number of classes (Soromenho, 1993).

Beyond simply accepting the model with the lowest AIC, BIC or ABIC value, it is also possible to interpret these values using a scree-plot similar to that used with the factor analysis eigenvalues discussed above (personal communication with Professor Bengt Muthen, September 2006). A plot of information criterion values could be expected to show substantial improvement in model fit as the number of classes considered initially increases. This improvement is likely to decrease as further classes are introduced. It is therefore possible that the absolute difference in model fit between the model with the lowest AIC, BIC or ABIC and models with slightly fewer classes could be very small. If this is the case, then assuming the model with fewer classes appears to capture all the major heterogeneity within the data, it may be preferable to accept this solution rather than the one which has a lower information criterion score but is less parsimonious and harder to interpret. Such an approach is likely to be particularly applicable in this research, where the use of LCA is intended

to help summarise patterns of policing preference across London rather than necessarily capture all the minor differences in preferences which exist within the data.

Several tests have been developed to try and overcome the difficulties associated with directly comparing log-likelihood measures across LCA solutions. Most notable here are the Lo-Mendell-Rubin test (LMR, Lo et al, 2001) and the bootstrap log-likelihood ratio test (BLR, Maclachlan and Peel, 2000). Both of these approaches compare neighbouring models (i.e. compare a 4 class model to a 3 class model) and provide a p-value to indicate whether the additional class significantly improves model fit. In contrast to the log-likelihood comparison test discussed earlier neither of these tests rely on the chi-square distribution. The LMR test assumes a different distribution (described in Lo et al, 2001), which it is argued overcomes the problems associated with using the chi-square distribution. As its name suggests, the BLR test uses a bootstrap approach to estimate the true distribution of the differences between the two models being compared (see Nylund et al, 2007, pp543-544, for a full description of this approach).

Despite some concerns about its underlying mathematical proof (Jeffries, 2003), the LMR test has been shown to perform well in a wide variety of situations (Nylund et al, 2007). Once again, when it does not identify the correct number of classes, it would appear to generally over-estimate how many are required.

Nylund et al (2007) suggest that the BLR test generally performs the most consistently of the different indicators they considered (although the LMR test is not far behind when considering models based on a large number of categorical indicators of the kind used in this study, 2007, p560). Unfortunately, the software implementation of the BLR test does not allow it to be used with models which involve either weighting of data or a clustered sample design. As such, it cannot be applied to the models in this study.

One final option to assess how well an LCA solution fits a dataset, which is not examined in the current literature, is to consider the level of significant standardised

residuals associated with a given solution (personal communication with Professor Bengt Muthen, September 2007). If a high proportion of the residuals associated with a solution are significant (at the 0.05 level) then this would suggest that many cases deviate substantially from the preference patterns identified by the latent class solution. Adding more classes to a model will reduce the number of significant residuals as the new model should better represent the heterogeneity within the sample. Once adding additional classes to the model does not have a marked effect on the level of significant residuals (probably best analysed using a scree-plot), it is reasonable to argue that adding additional classes does little to improve model fit. There is no formal test to identify the point at which the decrease in the number of significant residuals should be considered small enough to suggest that additional classes are not needed. Instead, this indicator, like several of those discussed above, should be used subjectively in conjunction with knowledge concerning the substantive fit of the preference groups identified.

Given that the single most consistent indicator, the BLR test, cannot be used on the models in this research, it seems unreasonable to use any single indicator to decide the number of classes needed to summarise patterns of policing preference. Instead (and in line with advice from Professor Bengt Muthen, Utrecht, June 2006), the results of all the indicators which can be computed will be reported. These indictors will be used to suggest a range of models which may provide appropriate representations of the data. The patterns identified within these models will then be compared to try and establish which one provides the most parsimonious solution (that is to say a solution where adding further classes does not add to the substantive understanding presented by the model). Therefore, the final choice of what number of preference mixes best represents the patterns within the data is based on a combination of statistical tests, substantive knowledge and subjective judgement.

4.2 The Need to Link Individual and Neighbourhood Level Factors

The second issue which must be addressed concerns how to accurately account for the impact of explanatory factors when these are measured at both the respondent and

neighbourhood levels. Approaches to handling multilevel data have a long history within social sciences (see, for instance, Robinson, 1950, Davis et al, 1961 and Burstein et al, 1978) and, as the availability of software has increased, so interest in multilevel modelling has developed (see Snijders and Boskers, 1999, pp1-3 and Twisk, 2006, pp1-3 for a brief overview of these developments). Four major approaches can be identified that could possibly be appropriate for this research[18].

4.2.1 Aggregation of Data (Ecological Regression)

One possible approach to establish if neighbourhood level differences are associated with variations in preferences towards policing is to aggregate individual preferences to a borough level and then create a regression model linking these aggregated preferences to the nature of different boroughs. For instance, assuming a latent class model is constructed around respondents' priorities for policing, the classification of individuals could be aggregated to a borough level to provide an indication of the likely policing preferences for that area. However, in doing this, it is critical to note that the research would no longer be concerned with the impact of neighbourhood level differences on the attitudes of individuals, but would now be considering how differences between boroughs affect aggregate preferences for policing. Statements about individuals within areas could suffer from the "ecological fallacy" (Robinson, 1950) and hence be misleading. Also, by aggregating data to a borough level, any heterogeneity at the respondent level will be lost and this will remove the possibility of making statements about the interaction between explanatory variables at the different levels.

[18] A further technique, often referred to as "contextual analysis" involves conducting a regression of individual level factors for the cases within each area. The coefficients of these models are then used as dependent variables in area level regression models. This analysis provides an indication as to under what conditions different individual level explanations may be important. However, these models do not allow for the direct impact of neighbourhood level factors on an individual level outcome to be modelled. As such, they are not appropriate for this analysis.

Analysis of aggregated data could be conducted using techniques which are often employed in the field of comparative public policy, most notably correlation and multiple regression. These techniques would appear useful for establishing causal relationships because they indicate the extent to which an explanatory factor is linked with a particular outcome. However, the use of such techniques can give an unrealistic impression of authority to the conclusions reached. This concern is particularly important because such techniques are based on many assumptions which a small sample (as noted in Chapter 3, using London boroughs as the higher level of analysis will result in just 32 cases) may fail to meet. Traditional statistical research is concerned with the extent to which conclusions based on a significantly sized random sample can be said to represent a parent population. However, once analysis is being conducted at a borough level, it could be argued that, as data are available for every borough, this study would become involved with describing genuine relationships across the areas under study rather than establishing estimates applicable to a larger population. If this was the case it could be that the interpretation of Castles (1998, p19) concerning the meaning of statistical significance in small sample research could be employed. Castles argues that in small sample comparative work, statistical significance provides one measure through which the relative salience of the different exploratory factors can be established. Creating regression models which explain the highest possible amount of variation between boroughs, while including only statistically significant variables, should provide an indication as to which hypotheses best explain any differences (1998, p19). However, as the dependent variables will have been created by aggregating individual data (respondents' probabilities of appearing in a given latent class) from a random sample of respondents, it is not obvious that the data under investigation here could be considered a true population in the sense which is commonly found in other areas of comparative public policy work (for instance Castles, 1998, with regards to welfare outcomes and expenditure across OECD nations).

Given the relatively small sample size on which this analysis is based, it is possible that any models may be susceptible to mis-specification as it will not be possible to include all the relevant independent variables. However, explaining the maximum amount of variance in attitudes towards the police should help to highlight the most

important independent variables and this should be useful in deciding which borough level factors to include in any multilevel analysis which follows.

One problem with statistically based comparative work is that the techniques used do not take account of whether or not the conclusions they suggest are appropriate. This could be a particular issue when a small sample is under investigation as any extreme case could have an undue influence on the results achieved. Therefore, it is important that any statistical findings are supported with theoretical explanations as to why the relationships identified may explain differences in policing preference.

Given that the sample on which this research is likely to be based appears not to meet the assumptions associated with techniques such as OLS regression, an alternative approach may be to use non-parametric techniques. Such methods have less stringent assumptions, both with regards to sample size and the importance of any outlying cases (Pett, 1997, pp15-17 and Gibbons, 1993, p63). Unfortunately, despite improvements over the last decade, non-parametric techniques, particularly for multivariate modelling, are still underdeveloped compared to their parametric alternatives (for details see Pagan and Ullah, 1999). In addition, many non-parametric alternatives to regression still have strong assumptions, and so are not as robust as the more established bivariate non-parametric methods.

In addition to analysing aggregated preferences for policing using correlation and regression, a useful descriptive exercise could involve mapping preferences across London. Shading boroughs in accordance with how popular a given mix of policing priorities is within that area could help to provide an overview of how preferences vary across London. Although these maps are essentially descriptive, they could assist in demonstrating whether preferences for policing vary across London, and if so, whether support for particular priorities is concentrated in particular areas of the city.

Conducting analysis at an aggregate level should provide a simple method to investigate whether preferences for policing vary between boroughs within London. However, it is important to remember that, if the impact of neighbourhood factors is

to be correctly isolated, then the role of respondent level explanations must also be controlled for. This is difficult to achieve within an aggregate setting. The reliability of aggregate level analysis in this research may also be affected by the relatively small sample size available for analysis. Despite this, ecological modelling could prove a useful forerunner to any multilevel models because it will help show whether preferences for policing vary across London and highlight potentially important borough level factors to be included in any later analysis.

4.2.2 Naïve Analysis

The opposite approach to aggregation is to treat each individual as a unique case, with individuals from any given borough taking identical values for those factors measured at an area level. These data could then be analysed like any other large-scale dataset. However, this approach fails to take account of the fact that cases within the dataset are not independent. Failing to account for non-independence will cause standard errors and significance measures to be based on the full sample size (i.e. the number of individuals in the dataset) when calculations relating to the impact of the area level factors should be based on a much smaller sample size (i.e. the number of boroughs). Applying such naïve methods to the analysis of multilevel data is therefore likely to overstate the significance of the borough level factors and so is not an acceptable methodology in the context of this analysis.

4.2.3 Clustered Multilevel Analysis

One way of gaining a more accurate impression of the significance of neighbourhood level factors would be to ensure that any standard errors presented were adjusted to take account of the non-independence of cases. Many software packages, including MPlus, now include an ability to calculate so called “robust standard errors”. The adjustments required to calculate standard errors which account for the non-independence of cases were first demonstrated in the work of Huber (1967) and White (1980). Full details of modern implementations of this approach, and examples of the

potential for misleading results if the clustering of cases is ignored, are given in Primo et al (2007). Robust, or clustered, standard errors take account of any correlation between cases within an area and the smaller sample size associated with factors at the borough level (personal communication, Stata Corp 15/03/2005). These adjustments will lead to an increase in the standard errors and confidence intervals presented, especially relating to borough level explanatory factors. Such adjustments should reduce the likelihood of exaggerating the statistical significance of neighbourhood factors. Besides providing a more accurate impression of the impact of borough level factors than would be obtainable through naïve regression modelling, this approach has three strengths. Firstly, it generally requires less clusters than are needed to accurately estimate a full multilevel model. This means it is likely to be more applicable to this analysis which contains only 32 cases at the borough level. Secondly, the output of this analysis can be interpreted in the same way as "normal" regression modelling, which helps to make any analysis presented accessible to the widest possible audience (including policy makers who may be interested in the substantive research but could have limited statistical training). Finally, it does not require the complex computation which is associated with estimating full multilevel models.

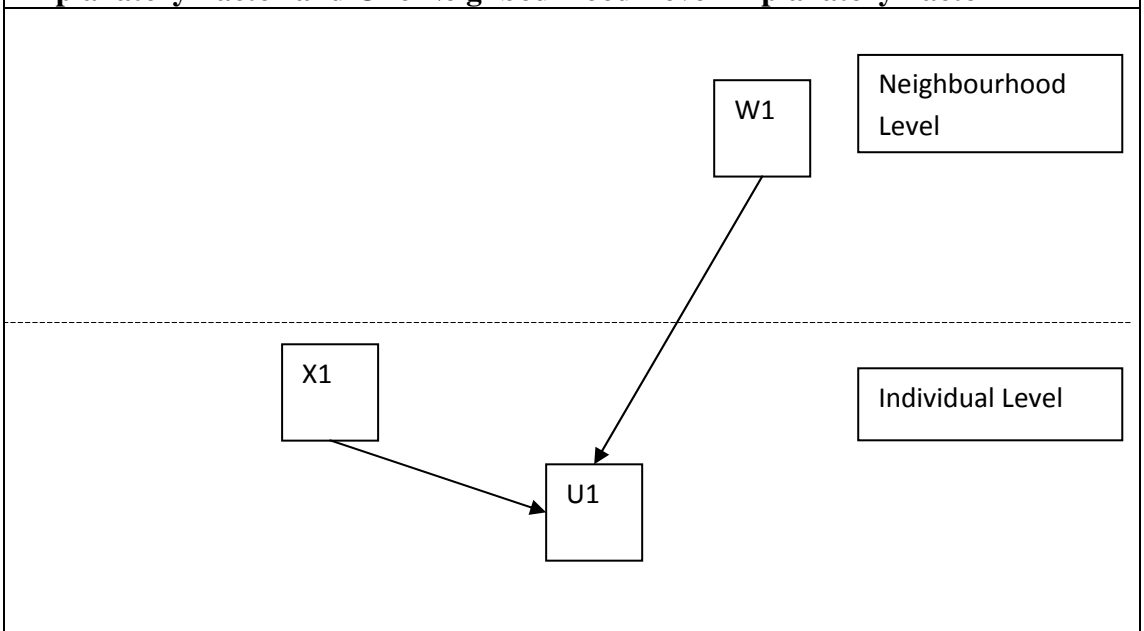
4.2.4 Complete Multilevel Modelling

In many ways, multilevel models can be seen as an extension of the clustered analysis discussed above. As with the clustered analysis, multilevel models adjust standard errors to take account of the fact that there are fewer unique cases at the neighbourhood level than at the individual level as well as possible similarities between individuals who live in a particular area. In addition multilevel models allow the impact of individual level factors to vary between areas, and for this variation to be related to factors measured at the neighbourhood level. For instance, this allows us to ask whether the effect of an individual's ethnic origin on policing preference varies between areas and, if so, how is this related to the ethnic composition of the borough in which they live? Furthermore, multilevel models can provide an estimate of how much of the variation between cases is accounted for by differences at the

neighbourhood, as opposed to respondent, level. This may give some indication as to the relative importance of neighbourhood factors in shaping preferences towards policing (brief introductions to the uses and methods of multilevel modelling can be found in Snijders and Bosker, 1999, pp1-35, and Twisk, 2006, pp 6-27).

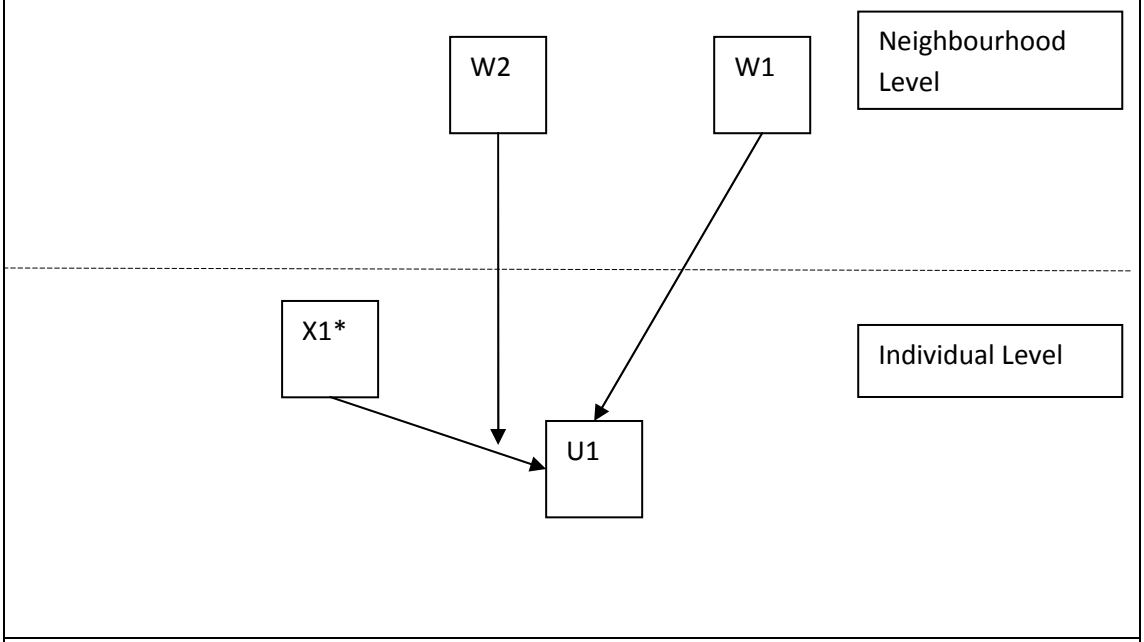
Figure 4.6 shows a basic multilevel model where the individual dependent variable (U1) is directly influenced by the individual level explanatory factor X1 and the neighbourhood level variable W1. Estimation of such a model is identical irrespective of whether this is treated as a multilevel, or clustered, model. Figure 4.7 expands the model in Figure 4.6 by allowing the effect of the individual level explanatory factor X1 to vary between areas and relating any such variation to the value of the neighbourhood level variable W2. The neighbourhood level factor W2 can therefore be said to have an indirect effect of the outcome U1 through its relationship with the effect of X1. In addition, the neighbourhood level factor W1 continues to exhibit a direct impact on the outcome (U1). It is possible that a neighbourhood level factor may have both direct and indirect effects on an individual level outcome. For instance, in addition to its impact on the relationship between X1 and U1, W2 may also have a direct affect on U1, with such a relationship shown by adding an additional arrow directly from W2 to U1 in Figure 4.7.

Figure 4.6: A Basic Multilevel Regression Model with One Individual Level Explanatory Factor and One Neighbourhood Level Explanatory Factor



Adapted from the notation used in Muthen and Muthen, 2005.

Figure 4.7: A Multilevel Regression Model Where the Impact of an Individual Level Factor is Influenced by a Factor at the Neighbourhood Level



Adapted from the notation used in Muthen and Muthen, 2005.

The ability to allow neighbourhood level factors to have both direct and indirect effects on individual level outcomes, alongside the opportunity to assess the relative amount of variation accounted for by different levels of explanation means that a model which includes full multilevel capabilities is likely to give a more complete picture of the relationship between neighbourhood context and an individual preference towards policing. Unfortunately, constructing a model similar to that in Figure 4.7 imposes stricter requirements in terms of data than a simple clustered regression analysis which can be used to estimate the model in Figure 4.6. In particular, a larger number of neighbourhoods are required to accurately estimate the impact of any neighbourhood factors considered. With full multilevel modelling, it may be necessary to have as many as 50 neighbourhood units in contrast to around 30 when conducting a clustered analysis (personal discussion with Professor Bengt Muthen, Utrecht, June 2006). As discussed in Chapter Three, the research reported here is based on a dataset which sees individuals grouped within the 32 boroughs of London served by the Metropolitan Police. Hence, it would appear that there are too few neighbourhood level units to allow a complete multilevel model to be reliably estimated. Therefore, while offering a less than complete picture, clustered regression

analysis is identified as the most appropriate approach for handling the data structure present in this research.

4.3 Conclusions

This chapter has focused on those statistical methods which can be employed to address the two main methodological challenges present in this research: namely creating a measure of an individual's preferences for policing and establishing whether these preferences are related to the characteristics of the individual and the neighbourhood in which they live. Several advanced statistical techniques have been discussed and the strengths and weaknesses of each technique outlined. The final choice of techniques is shaped, not only by how well a technique can address the research questions, but also by how appropriate they are for use in analysing the information provided by the PAS dataset.

As noted in the previous chapter, respondents were asked about their attitudes towards a range of different policing tasks. It is likely that the answers they provide will be related and may well represent some underlying expectation about the type of policing they wish to see prioritised. Rather than modelling a respondent's rating of each policing function separately, the first task in this thesis is to attempt to develop a measure which effectively summarises a respondent's policing preference. Two alternative techniques, factor analysis and latent class analysis have been considered for this purpose. Of these approaches, it is LCA which will form the backbone of the subsequent analysis. This method is preferred to factor analysis since, while factor analysis may show how the answers to several questions are related, it does not help address the question of whether or not it is possible to identify groups of respondents who hold similar preferences (Hypothesis 2 in Chapter 2). In contrast, LCA is directly concerned with identifying groups of cases who share common characteristics (in this case their attitudes towards different policing tasks). Moreover, while LCA creates a single outcome measure for each respondent (their class membership), factor analysis produces several related outcomes (one for each factor identified). Having a

single outcome measure simplifies the subsequent analysis the aim of which is to link a respondent's preferences to different explanatory factors.

The decision to focus on LCA does not mean that factor analysis has no role to play in this study. Using exploratory factor analysis could be expected to help identify those policing functions which respondents appear to view in similar ways. Such information is likely to prove useful in helping to understand whether respondents rate different policing tasks in ways that are underpinned by wider expectations concerning the approach the police should be taking, and, thus, in interpreting the groups identified via LCA. In addition, it will also help to directly address the issue, raised by Beck et al (1999) and Salmi (2005) around whether preferences for policing are best represented by a single continuum, or via a range of measures each representing a different aspect of policing (Hypothesis 1 in Chapter 2).

The second major methodological challenge of this research is how to correctly model the impact of neighbourhood characteristics on an individual's policing preference. Ideally, a full multilevel model would be used. This would allow borough characteristics to influence an individual's preferences both directly and through altering the impact of individual level covariates. Unfortunately, the limited number of cases at the borough level means that the reliability of such models is open to question. Instead, two less restrictive methods will be employed to try and develop an insight into the relationship between neighbourhood context and policing preference. Firstly, individual preferences for policing will be aggregated to a borough level and these data analysed using techniques which are common to the field of comparative public policy. This analysis should help to provide an initial overview of whether the public's priorities for policing vary across London and, how at an aggregate level, these differences in preference may be related to social context. Secondly, a clustered regression model will be employed to try and assess whether borough level factors still influence preferences for policing once differences between respondents are controlled for. These models are designed to take account of how individuals living within a borough cannot be seen as wholly independent. There are two main drawbacks to using this approach. Firstly, it only allows the direct impact of neighbourhood factors on an individual's preferences to be estimated and, secondly,

the method does not estimate the relative importance of individual and borough level covariates in "explaining" an individual's preferences. Despite these drawbacks, this analysis (summarised in Figure 4.8) represents a step forward compared to the models presented in the existing literature, and can be reliably estimated with the available data.

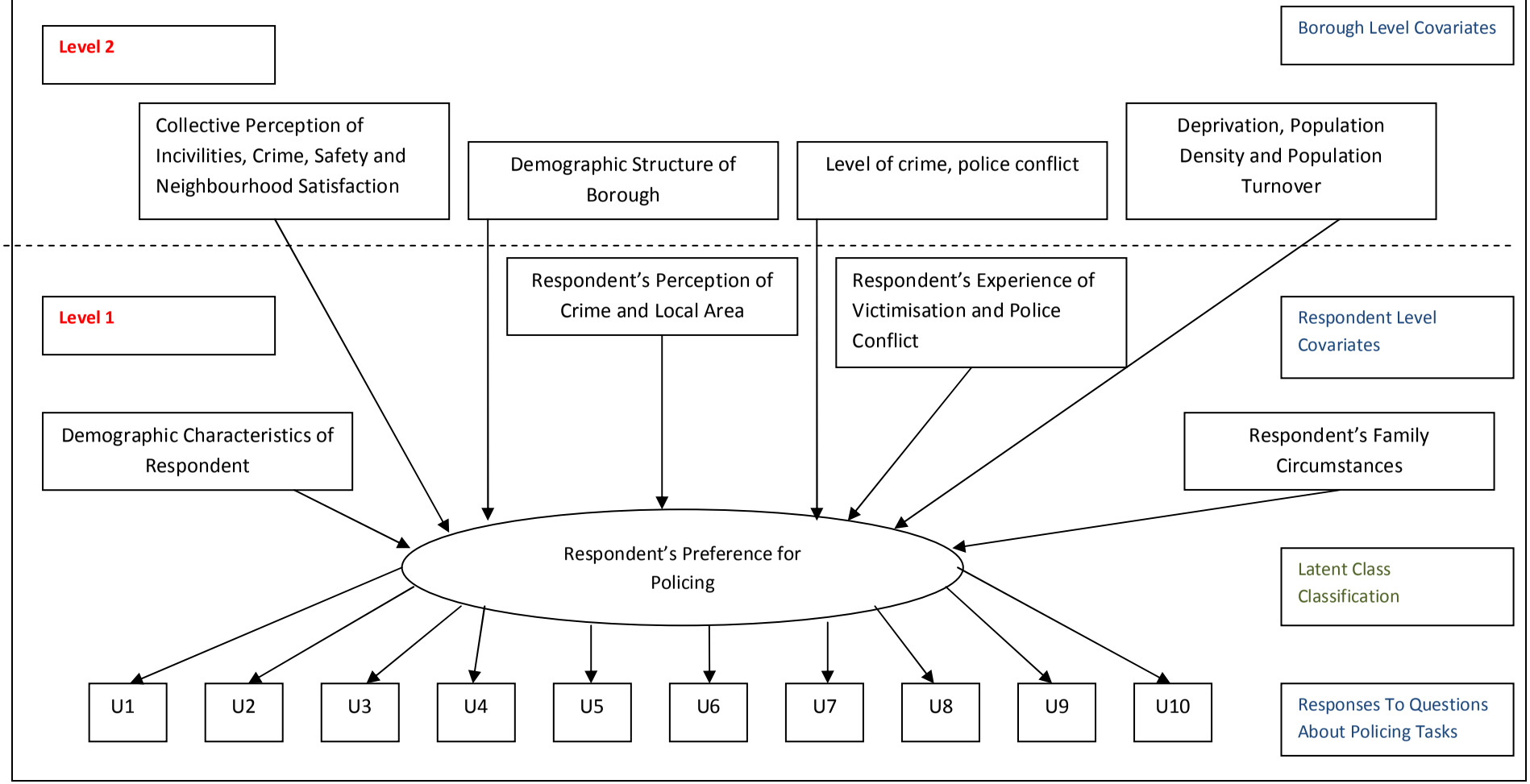
The model shown in Figure 4.8 involves two main sections. An LCA model is used to "measure" a respondent's preferences for policing. This is shown towards the bottom of the diagram and draws on the responses provided by the respondent to the different survey questions discussed in Chapter Three. Membership of the different classes identified in this model is then linked (via a clustered multinomial regression) to different explanatory variables measured at both the individual and borough levels (full details of the process involved in creating the final models are given in Appendix 4.2). This model will be estimated using the MPlus software package. This software has several strengths which make it appropriate for this thesis. Firstly, its ability to handle missing data means it will help to maintain the maximum sample size within the PAS dataset. Secondly, as the package can handle both LCA models and multilevel data, it will be possible to estimate the model shown in Figure 4.8 in one step rather than estimating an LCA model of preferences for policing and then using the output of this model as the dependent variable in a second model to assess how preferences may be related to different explanatory factors (see final models in Chapters Five and Six, details of the stages involved in estimating these models are given in Appendix 4.2). Estimating an LCA model while including covariates has been shown to produce more accurate estimates of the relationships under consideration and reduce the measurement error associated with the model (Nagin, 2005, pp96-99 and personal discussion with Professor Bengt Muthen, Utrecht, June 2006).

Neither ecological regression nor the model shown in Figure 4.8 provides any insight as to the relative importance of individual and neighbourhood covariates in "explaining" an individual's preference for policing. Therefore, one further piece of evidence will be presented. A three level multi-level model (which will not include any covariates given the small number of cases at the borough level) will be used to

estimate how much of the variation in a respondent's preference is attributable to the neighbourhood rather then respondent level. These models are known as null multilevel models. The full procedure for this analysis is presented along with its results in Appendix 8.1.

The analysis suggested in this Chapter pushes towards the boundaries of what can be achieved using currently available software, especially given the nature of the data under consideration. No single approach can be considered suitable to address all the methodological challenges identified. Instead, a range of models, including ecological regression, null multilevel models and clustered analysis of multilevel data will be used alongside latent class analysis and factor analysis to build-up a jigsaw of evidence about whether or not neighbourhood context influences an individual's preferences towards policing. There are limitations to the proposed analysis, notably the lack of full multilevel modelling. However, the methods suggested will generate greater insights into the public's preferences for policing than has previously been available in the literature and should also provide the first large-scale quantitative evidence of how these preferences may be influenced by social context.

Figure 4.8: Final Latent Class Model with Two-Level Covariates



Appendix 4.1: The Handling of Categorical Variables in MPlus

Binary and ordinal variables, such as those used to measure preferences for policing in this thesis, are normally modelled in accordance with either a logit or probit distribution (Long and Freese, 2003). In contrast, MPlus treats categorical variables as a representation of an underlying continuous measure, where the movement from one category to another on the observed categorical variable is defined by a series of thresholds along the length of the continuous scale (See Muthen, B, 2004, Appendix 1).

For instance, a binary dependent variable may be modelled using a probit regression,

$$\Pr ob(y = 1 \mid x) = F(\alpha + \beta x) \qquad (4A.1)$$

where F follows the standard normal distribution (Φ) providing a non-linear relationship with x resulting in a value constrained between zero and one.

Alternatively, a binary variable may be seen as a representation of an underlying continuous measure (y*) where the threshold (τ) defines the cutpoint for a case appearing as a one rather than zero on the binary variable. y* can then be related to covariate x via linear regression,

$$y^* = \pi x + \delta \qquad (4A.2)$$

where δ represents the residuals and these are independent of the covariates.

The threshold (τ) which provides the link between the continuous measure and the binary indicator replaces the intercept in the linear regression. Assuming normality for the distribution of δ and scaling V(δ) to be equal to one then Equation 4A.2 is equal to Equation 4A.1 with $\alpha = -\tau$ and $\beta = \pi$ (Equation 4A.3).

$$\Pr ob(y = 1 \mid x) = \Pr ob(y^* > \tau \mid x) = 1 - \Pr ob(y^* \le \tau \mid x) = 1 - \Phi[(\tau - \pi x)V(\delta)^{-1/2}] \qquad (4A.3)$$

Appendix 4.2: Steps Involved in Estimating an LCA Model of Policing Preferences with Individual and Borough Level Covariates

Estimating a model along the lines of that shown in Figure 4.6 involves several stages:-

1) Latent class models involving a range of different number of classes will be estimated using all of the PAS questions which refer to a respondent's preferences for policing. Separate models will be estimated for attitudes towards city-wide and local policing, and no covariates will be included in these models.

2) The different LCA models will then be compared (with reference to both measures of model fit and there appropriateness for substantive interpretation) to identify the number of classes which best summarised the different patterns of preferences present within the data.

3) The probability of an individual appearing in a particular class of the chosen LCA model will then be related to a series of covariates which represent both the characteristics of the respondent and the nature of the borough in which they live. The following steps will be used to identify the significant covariates (based on the variables z-score and taking significance at the 0.05 level) which are related to a respondent exhibiting a particular mix of preferences:-

    a) All the respondent level covariates will be entered in to the model.

    b) The least significant covariate (assuming it is insignificant at the 0.05 level) will then be removed and the model will be re-estimated. This process will continue until only statistically significant respondent level covariates remain.

c) All the borough level covariates will then be entered into the model alongside those respondent level covariates which were identified as significant during in the previous step.

d) Insignificant borough level predictors (again based on a 0.05 level of significance) will be removed using the same iterative process as was applied to the respondent level covariates.

e) Once only significant borough level covariates remain, any individual level covariates which now appear insignificant will be removed from the model (again, beginning with the least significant variable).

f) Once the model contains only significant covariates, at both the respondent and borough levels, those respondent level covariates which were previously excluded during "step b" will be retested to ensure that the inclusion of borough level predictors has not caused additional respondent level covariates to become significant.

CHAPTER 5: DEVELOPING A MEASURE OF THE PUBLIC'S PREFERENCES FOR POLICING – CITY-WIDE ISSUES

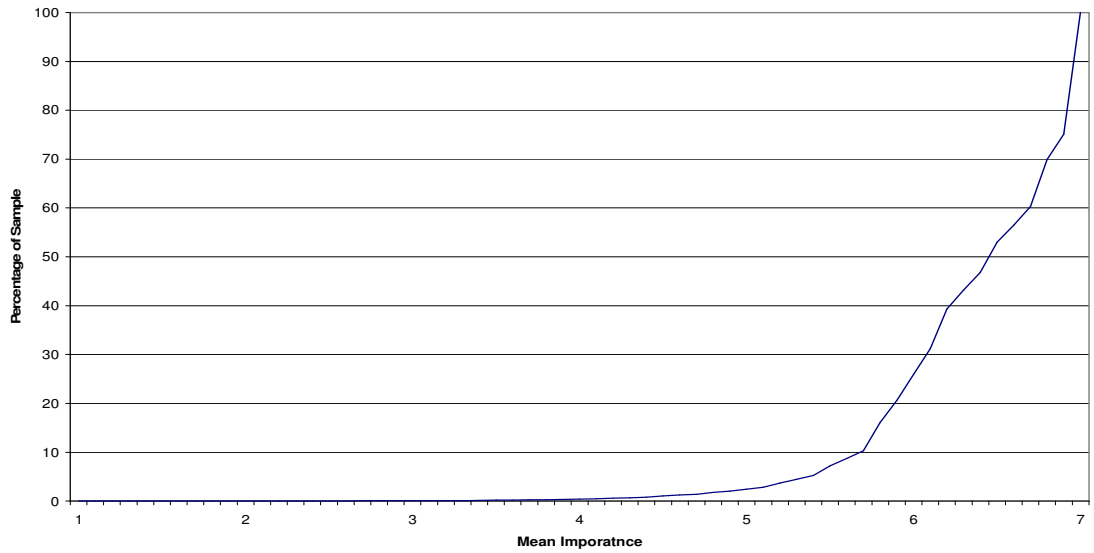
As described in Chapter Three, the PAS dataset includes two sets of questions about a respondent's attitude towards city-wide policing. These questions ask respondents to consider how well the police carry out 13 different policing tasks, and secondly, how much importance they attach to the police undertaking each task. One possible measure of a respondent's preferences for policing could be developed by subtracting a respondent's perception of how well the Metropolitan Police perform each task from the level of importance they attach to that function. For each function, this would give a measure of the gap between how important a respondent believes a particular task is and how well they believe the police perform that task. A negative figure would indicate that the perceived performance of the police is below the perceived importance of the task. The larger this gap, the more it could be argued that the respondent believes the police should concentrate on this task to improve their performance (known as gap analysis, this technique has been applied to policing by Bland, 1997, Beck et al, 1999, and Salmi et al, 2005). Unfortunately, while the level of missing data and prevalence of "Don't Know" responses is relatively low with regards to the importance respondents attach to different policing tasks (Table 5.1), the data concerning perceived performance shows that up to 40 percent of respondents answer "Don't Know" depending on the policing function they are asked to consider. This means that creating a measure which combines the answers to these two questions is likely to lead to a substantially reduced sample size. Additionally, as the level of missing data varies between policing functions there is a possibility that this will introduce bias to subsequent analysis. In view of this problem, the remainder of this analysis will concentrate on the importance respondents attach to different policing functions.

5.1 Raw Importance Scores Attached to City-wide Policing Tasks

5.1.1 Replication of Existing Dependent Variables – Average Overall Importance

Treating "Don't Know" responses as missing data, the average importance rating for policing across all functions is 6.42 out of 7 (s.d =0.59). This estimate has a skewness statistic of -1.38 and a kurtosis score of 7.28 suggesting that respondents' attach a high importance to policing as a whole. This impression that most individuals attach a high level of importance to most facets of policing is supported by the distribution shown in Figure 5.1. This finding is not surprising because, as discussed in Chapters Two and Three, it might be expected that many respondents will attach high importance to any policing task they are asked to consider. This may reflect how respondents who perceive the police as a positive body, and do not feel unfairly targeted by them will most likely attach high importance to all aspects of policing unless some constraints are introduced to prevent this. Alternatively, it may be the case that a respondent who lacks detailed knowledge about particular policing tasks will focus on the symbolic importance of the police and therefore rate all tasks as highly important.

Figure 5.1: Distribution of Mean Importance Scores Across the PAS Sample



n=7135. 36 respondents did not answer any of the 13 questions and are dropped from the analysis.

The highly skewed distribution shown in Figure 5.1 is likely to be difficult to analyse using regression analysis, because while there is little heterogeneity amongst most of the population, the variable does have some extreme outliers (a few individuals who attach low average importance across the different functions considered). The usefulness of a measure of average importance is also likely to be limited because it makes no reference to how an individual's reaction may vary between different policing functions. It is possible that two respondents may exhibit similar levels of average importance, but prioritise very different tasks.

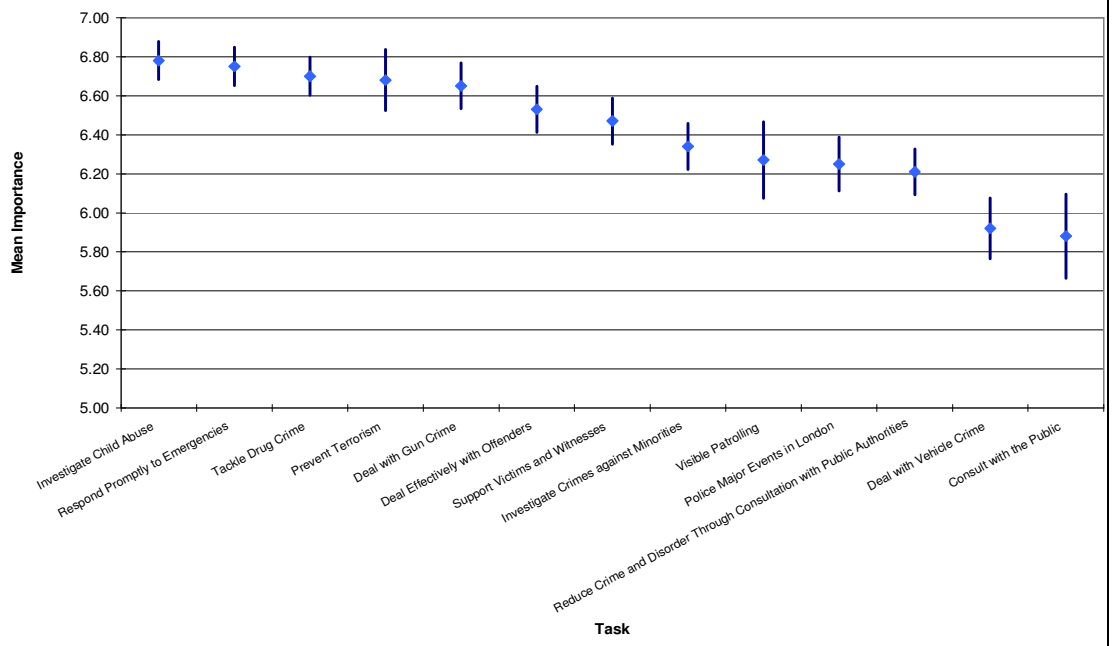
The ability to compare overall importance scores between respondents may also be limited because some respondents did not provide rating for every police function they were asked to consider. Table 5.1 shows the breakdown of average importance values as a function of the number of questions a respondent answered. This suggests that those people who answer fewer questions generally exhibit higher average levels of importance (a notable break in the table can be seen by comparing those respondents who answer six or less questions with those who answer seven or more questions). One possible explanation for this finding is that some respondents only answer those questions which refer to functions they believe are important, which causes their average importance rating to be inflated. This suggests that the average importance attached to policing cannot be reliably compared between respondents without taking account of the impact of missing data.

Table 5.1: Mean Overall Importance for Policing Across 13 Functions Considering London as a Whole (on a Scale of 1-7)					
Number of Questions Answered	**Number of Respondents**	**Percentage of Sample**	**Mean**	**Standard Deviation**	**Median**
1	1	0.01	7.00	n/a	7.00
2	4	0.05	6.91	0.22	7.00
3	1	0.01	7.00	n/a	7.00
4	4	0.05	6.73	0.59	7.00
5	3	0.05	6.89	0.12	6.80
6	4	0.06	6.85	0.36	7.00
7	6	0.10	6.04	0.88	5.57
8	18	0.22	6.05	0.71	6.00
9	35	0.52	6.12	0.69	6.33
10	40	0.57	6.11	0.60	6.20
11	189	2.63	6.15	0.57	6.27
12	360	4.91	6.24	0.54	6.33
13	6470	90.82	6.43	0.58	6.54
Overall	7135	100.00	6.42	0.59	6.38
n=7135. 36 respondents did not answer any of the 13 questions and are dropped from the analysis.					

5.1.2 Replication of Existing Dependent Variables – Individual Ratings for each Function

Figure 5.2 presents an indicator of the average importance for each of the 13 policing tasks considered based on all the responses relating to each individual function (i.e. it is **not** just based on the 90 percent of the sample who answered all the questions). In Figure 5.2, the mean importance score is given by the blue dot while the navy blue bar represents the 95% confidence interval.

Figure 5.2: Mean Importance Attached to Different Policing Functions by Respondents Considering London as a Whole (on a scale of 1-7)



Complete information about the variables shown in Figure 2, including means, standard errors, medians, skewness and kurtosis measures are given in Table 5A.1 of Appendix 5.1. Confidence intervals are based on robust standard errors to account for clustered sample design.

Figure 5.2 suggests that, while the average importance attached to each function is relatively high (the lowest mean score is 5.88), there is some variation between functions not only in terms of the average importance attached to them but also in the distribution of cases around this average (shown by the variation in the confidence intervals in Figure 5.2 and the different skewness and kurtosis scores given in Table 5A.1). Looking at the order of the functions in Figure 5.2, it could be argued that on average the public attach greater importance to those functions which might be called on in an emergency compared to those associated with crime prevention or community policing. Although the tasks in Figure 5.2 vary from those in existing research, the finding that higher levels of importance are attached to policing functions which could be considered more protective mirrors the conclusions of much existing work (for instance, Roberts and Hough, 2005, p54, and Smith, 1983, p225). The generally increasing size of the

confidence intervals across the graph from left to right suggests that not only do the public seem to, on average, attach less importance to community policing activities but that their opinion on these issues may also exhibit more variation.

One interesting difference between the picture painted in Figure 5.2 and the findings of existing research is the relative low importance that appears to be attached to police patrolling. However, this might be a result of the seriousness of many of the other tasks which are considered in this question. Therefore, while the public may generally wish to see high levels of police patrolling they attach greater concern to the police undertaking other tasks, such as investigating child abuse and dealing with drug crime. Therefore, to an extent this result may be attributable to the questions included in the PAS questionnaire, rather than suggesting a result which is substantially different from previous work (this task does receive a mean rating of greater than six out of seven). This finding is in contrast to the analysis in the next chapter which considers local policing issues. In Chapter Six, patrolling is compared to other local policing functions, such as youth work and public consultation, and scores very highly.

A key contention of this thesis is that, since many functions of policing are related (indeed responses with regards to specific functions could be believed to represent preferences for wider, latent, forms of policing such as public protection or community policing), studying each function separately may lead to the complexities of the data not being fully explored. Table 5.2 gives correlation statistics between all the different policing functions shown in Figure 5.2. Given the high proportion of respondents who gave responses of six or seven to every function, and the large overall sample size, it is not surprising that all the correlations shown in Table 5.2 are highly significant ($p<0.01$) and, for the most part, very large by the standards of social survey based research (DeVaus, 2002, p258, suggests that correlations in excess of 0.3 can often be considered "very strong" with this form of data). The mean correlation in Table 5.2 is 0.562, suggesting that those respondents who attach high levels of importance to one policing function could be expected to exhibit high ratings across all functions. However, the

pattern of correlations in Table 5.2 does suggest that the relationship between the importance attached to different functions does vary depending on which functions are considered.

The order of the tasks in Table 5.2 is aimed at reflecting two broad groups of policing activities; the early functions in the table can be seen as representing the police's role in protecting the public, while the later functions represent tasks which are more associated with community policing (these groupings are reflected by the bold lines in Table 5.2)[19]. In Table 5.2, all correlations greater than the mean correlation are shown in bold. This shows that the correlations between those functions grouped together into notional approaches to policing are generally stronger than those between functions representing different underlying needs (shown by how the majority of the larger correlations appear in the top left and bottom right of the table). This finding lends support to the view that the level of importance respondents attach to particular policing tasks could well represent their desire to see the police prioritise a particular broad style of policing.

A couple of exceptions to this general pattern are worthy of note. Firstly, two functions, "Deal Effectively with Offenders" and "Support Victims and Witnesses" could be argued not to sit comfortably with either the idea of protective or community policing but could maybe be seen as representing a different dimension relating to police involvement with the wider criminal justice system. The importance attached to these two functions appears strongly related to a wide range of the other tasks in Table 5.2 and does not really seem to fit with just one of the two general approaches identified above. The idea that these two functions form a separate grouping is supported by the strength of the correlation between them (0.814), much the strongest relationship reported in Table 5.2.

[19] The ordering of tasks in Table 5.1 reflects the researcher's interpretation of what each task may represent. This is in contrast to the results presented later in this chapter where grouping of variables are identified via statistical analysis.

It might be expected that the importance an individual attaches to preventing terrorism would be strongly related to the importance he or she attaches to other policing functions of a protective nature. However, two of the strongest correlations relating to preventing terrorism in Table 5.2 concern "Investigating Crimes Against Minority Groups" (0.597) and "Police Major Events in London" (0.593). As with the two functions discussed above, this suggests that the importance an individual attaches to the police preventing terrorism may not fit with the general two-group functional pattern. A possible explanation could be that while the other functions associated with the notion of protective policing concern domestic issues, for example drug crime or child abuse, terrorism is likely to be associated with a wider range of possible causes (and possible perpetrators) and so may be evaluated differently from the other functions under consideration.

Table 5.2: Pairwise Polychoric Correlations of the Importance Attached to Different Policing Functions by Respondents Considering London as a Whole

	Task	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Prevent Terrorism	1.000												
2	Investigate Child Abuse	0.472	1.000											
3	Respond to Emergencies Promptly	**0.586**	**0.725**	1.000										
4	Tackle Drug Dealing and Drug Use	0.532	**0.764**	**0.660**	1.000									
5	Deal with Gun Crime	**0.634**	**0.714**	**0.726**	**0.711**	1.000								
6	Deal Effectively with Offenders	0.445	**0.609**	**0.647**	**0.601**	**0.645**	1.000							
7	Support Victims and Witnesses	0.474	**0.600**	**0.600**	**0.566**	**0.583**	**0.814**	1.000						
8	Investigate Crimes Against Minority Groups	**0.597**	0.516	0.556	0.542	**0.565**	**0.628**	**0.647**	1.000					
9	Provide a Visible Patrolling Presence	0.403	0.414	0.495	0.486	0.430	**0.661**	**0.646**	0.551	1.000				
10	Police Major Events in London	**0.593**	0.486	0.506	**0.586**	0.529	**0.567**	**0.621**	**0.634**	0.493	1.000			
11	Reduce Crime and Disorder Through Consultation with Public Authorities	0.561	0.471	0.524	0.508	0.510	**0.591**	**0.620**	**0.756**	0.531	**0.651**	1.000		
12	Consult with the Public	0.246	0.238	0.224	0.313	0.250	0.560	**0.612**	0.470	**0.721**	0.532	0.520	1.000	
13	Deal with Vehicle Crime	0.434	0.315	0.376	0.418	0.448	**0.573**	**0.580**	0.535	**0.641**	0.558	**0.657**	**0.669**	1.000

Correlations shown are based on Polychoric correlations calculated in Stata 9 to take account of ordinal nature of the variables. All correlations are significant at 0.01 level. Robust standard errors were not available with Polychoric correlations. Sample size varies between correlations due to missing data, approximate sample size for each correlation is in excess of 7000. Correlations in bold are greater than the mean correlation of 0.562

5.1.3 Identifying Underlying Approaches or Groups – Factor Analysis

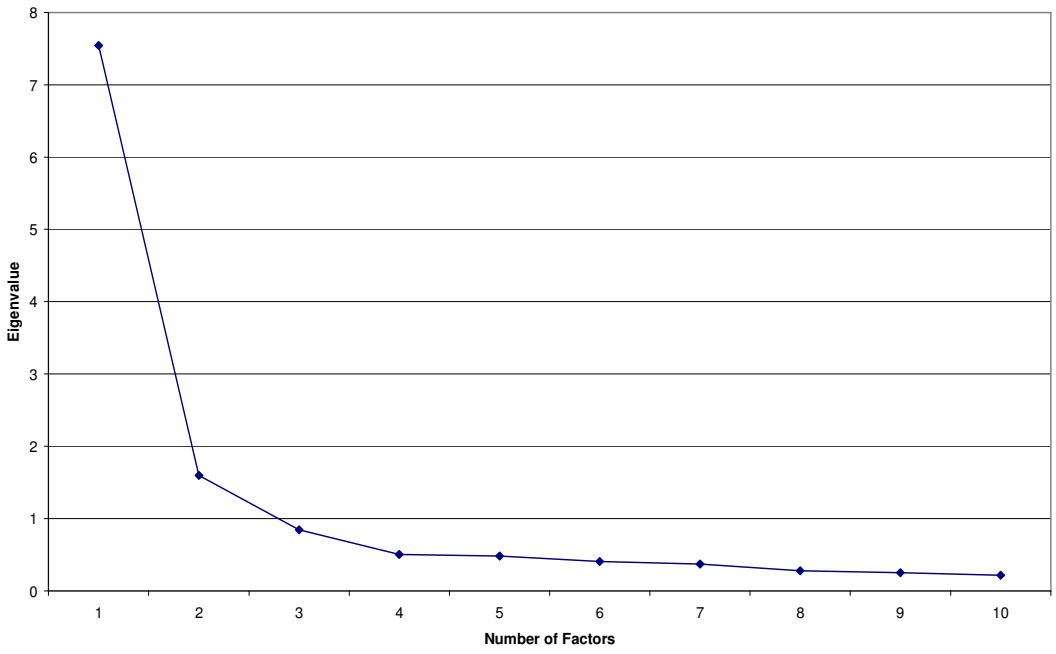
While a large proportion of those questioned attached maximum importance to all policing functions, the patterns present in Table 5.2 suggest that the answers provided by many respondents may reflect some underlying belief about the kinds of policing they wish to see prioritised.

As outlined in Chapter One, a key aim of this thesis is to investigate how a respondent's local area influences their preferences for policing. Therefore, the unit of interest in the subsequent analysis will be the individual respondent rather than particular policing functions. As such, it is respondents that will be grouped together when attempting to summarise support for different priorities. This classification will be achieved using latent class analysis (LCA). However, a simple exploratory factor analysis (EFA) can help to develop the analysis in Table 5.2 and illustrate how the importance attached to different functions is related. EFA is used to illustrate possible relationships between responses to the different questions with a view to gaining a fuller understanding of how the importance of the different policing functions may be related. Such an understanding will prove useful in adding substantive interpretation to the groupings of respondents identified in the subsequent LCA. In addition, if EFA reveals groupings of policing functions which can be argued to be representative of an underlying approach to policing, this may be seen as supporting the expectation that respondents call on general beliefs about how the police should operate when assessing the importance they attach to specific policing tasks (supporting Hypothesis 1 in Chapter 2).

As discussed in Chapter Four, the primary use of EFA within this research is intended to provide background information prior to the LCA models. The discussion of what is the optimal number of factors needed to represent any patterns present within the dataset will therefore be restricted to a scree-plot interpretation of eigenvalues alongside substantive interpretation of the factor loadings identified.

Figure 5.3 provides a scree-plot of the eigenvalue scores associated with different EFA models of the survey answers discussed above. Looking for points where the curve flattens out suggests that between two and four factors are likely to provide an acceptable approximation of the relationships between the original responses.

Figure 5.3: Eigenvalues for EFA of the Importance Attached to Different Policing Functions by Respondents Considering London as a Whole



Exploratory factor analysis conducted using MPlus 4.1 to account for ordinal nature of variables and missing data. Analysis includes all cases which answer at least one question. n=7135.

Table 5.3 shows the factor loadings for a two factor solution. These loadings broadly reflect the conclusions reached with reference to the correlations in Table 5.2. As with all the subsequent tables presenting factor analysis results, the figures in bold show which factor each question is most strongly related to, and hence which underlying construct that question appears to best represent. Figures in grey show policing tasks which do not load clearly on to any single factor. The loadings shown in Table 5.3 support the view that responses to those questions covering issues such as gun crime, drug crime and responding promptly to emergencies are strongly related and could be taken together to

provide an indication of a wish for the police to concentrate resources on protecting the public from serious crime. The second factor, which receives its strongest loading from the question concerning consulting with the public, would appear to represent those tasks commonly associated with community policing. Three tasks ("Deal Effectively with Offenders", "Investigate Crimes against Minorities" and "Police Major Events in London") appear to load relatively equally on both factors suggesting that either they are poor indicators of the underlying constructs (because the answers provided by respondents do not reflect the pattern of answers provided for the other questions) or that a two factor solution is not sufficient to summarise the relationships within the dataset. When correlated together, the two factors identified have a Pearson r correlation of 0.617 ($p<0.01$), which, while it could to some extent be a function of the cross-loading associated with the three questions identified above, supports the argument presented earlier that, while respondents might discriminate between functions, many respondents attach similar (high) levels of importance to all functions.

Table 5.3: Promax Rotation Factor Loadings for Two Factor Solution (City-wide Policing - Original Responses)

Task	Protective Policing	Community Policing
Investigate Child Abuse	**0.910**	-0.126
Deal with Gun Crime	**0.898**	-0.061
Respond Promptly to Emergencies	**0.884**	-0.063
Tackle Drug Crime	**0.807**	0.018
Prevent Terrorism	**0.616**	0.115
Deal Effectively with Offenders	0.459	**0.464**
Investigate Crimes against Minorities	**0.447**	0.428
Police Major Events in London	0.389	**0.450**
Support Victims and Witnesses	0.388	**0.541**
Reduce Crime and Disorder Through Consultation with Public Authorities	0.330	**0.536**
Visible Patrolling	0.094	**0.734**
Deal with Vehicle Crime	0.017	**0.783**
Consult with the Public	-0.316	**1.052**

Exploratory factor analysis conducted using MPlus 4.2 to account for ordinal nature of variables and missing data. Analysis includes all cases which answer at least one question - n=7135. Bold figures show each function's highest factor loading.

Table 5.4 presents a three factor EFA model. Once again, this shows strong links between the responses given to those questions which concern major crimes and the

police's responses to them, with the exception that in this solution this factor excludes terrorism and hence can be seen as representing domestic issues. The exclusion of preventing terrorism from this factor suggests that this task may be seen as separate from other serious crime issues. This reflects the conclusion provided with reference to Table 5.2 that terrorism might be seen as having different causes, and requiring a different policing response, from other serious crimes. Although it is not immediately clear why terrorism becomes grouped with the other functions that it does, one possible explanation could be that they are all linked by being more distant from the London public. One final result of introducing a third factor is that the factor which focuses on community policing now appears to have been trimmed down to represent only those functions relating to the interaction between the public and the police in a respondent's local area. The correlations between the different factors (given under Table 5.4) remain highly significant and relatively strong reinforcing the findings from Table 5.3.

The results presented in Table 5.5 (a four factor EFA solution) closely mirror those shown in Table 5.4, the only alteration being that responses relating to the questions "Deal Effectively with Offenders" and "Support Victims and Witnesses" now load onto their own factor instead of loading relatively equally across several factors. This suggests that answers to these two questions may represent their own underlying dimension, possibly concerning the police's role in the wider criminal justice system (a conclusion which again mirrors that suggested by Table 5.2).

Table 5.4: Promax Rotation Factor Loadings for Three Factor Solution (City-wide Policing - Original Responses)

Task	Protective (Domestic) Policing	Local Community Policing	Other Issues
Investigate Child Abuse	**0.923**	-0.028	-0.054
Respond Promptly to Emergencies	**0.769**	-0.045	0.147
Deal with Gun Crime	**0.724**	-0.086	0.244
Tackle Drug Crime	**0.714**	0.028	0.133
Deal Effectively with Offenders	**0.546**	0.517	-0.059
Support Victims and Witnesses	0.424	**0.532**	0.047
Consult with the Public	-0.191	**0.976**	0.022
Visible Patrolling	0.183	**0.714**	0.004
Deal with Vehicle Crime	-0.094	**0.577**	0.377
Reduce Crime and Disorder Through Consultation with Public Authorities	-0.015	0.230	**0.709**
Prevent Terrorism	0.240	-0.168	**0.697**
Investigate Crimes against Minorities	0.149	0.173	**0.606**
Police Major Events in London	0.125	0.212	**0.551**

Exploratory factor analysis conducted using MPlus 4.2 to account for ordinal nature of variables and missing data. Analysis includes all cases which answer at least one question. n=7135. Bold figures show each function's highest factor loading.

Correlations Between Factors (p<0.01)

	Protective (Domestic) Policing	Local Community Policing	Other Issues
Protective (Domestic) Policing	1.000		
Local Community Policing	0.477	1.000	
Other Issues	0.644	0.587	1.000

Table 5.5: Promax Rotation Factor Loadings for Four Factor Solution (City-wide Policing - Original Responses)

Task	Protective (Domestic) Policing	Local Community Policing	Other Issues	Criminal Justice System
Investigate Child Abuse	**0.875**	-0.010	-0.089	0.111
Tackle Drug Crime	**0.852**	0.156	0.017	-0.118
Deal with Gun Crime	**0.679**	-0.080	0.226	0.073
Respond Promptly to Emergencies	**0.629**	-0.130	0.182	0.223
Consult with the Public	-0.077	**1.010**	-0.040	0.004
Visible Patrolling	0.169	**0.602**	0.028	0.171
Deal with Vehicle Crime	-0.044	**0.510**	0.391	0.020
Prevent Terrorism	0.281	-0.117	**0.684**	-0.120
Investigate Crimes against Minorities	0.022	0.015	**0.719**	0.173
Reduce Crime and Disorder Through Consultation with Public Authorities	-0.081	0.107	**0.801**	0.084
Police Major Events in London	0.208	0.247	**0.532**	-0.106
Deal Effectively with Offenders	0.293	0.237	0.016	**0.575**
Support Victims and Witnesses	0.225	0.293	0.136	**0.435**

Exploratory factor analysis conducted using MPlus 4.2 to account for ordinal nature of variables and missing data. Analysis includes all cases which answer at least one question. n=7135. Bold figures show each function's highest factor loading.

Correlations Between Factors (p<0.01)

	Protective (Domestic) Policing	Local Community Policing	Other Issues	Criminal Justice System
Protective (Domestic) Policing	1.00			
Local Community Policing	0.361	1.00		
Other Issues	0.660	0.587	1.00	
Criminal Justice System	0.519	0.498	0.511	1.00

Overall, the above factor analysis would appear to suggest that while most respondents attach a high level of importance to the vast majority of the policing functions, responses do fluctuate in ways which suggest they may represent some more general attitudes towards police priorities (for instance community policing or dealing with serious criminal issues). This supports Hypothesis One in Chapter Two.

5.1.4 Identifying Underlying Approaches or Groups – Latent Class Analysis

The analysis presented above focuses on grouping together policing functions rather than the respondents. However, this thesis primarily focuses on individuals, the policing preferences they hold, and how these relate to their personal characteristics and neighbourhood context. As outlined in the previous chapter, LCA provides one method for attempting to group together individuals who express similar preferences.

With 13 questions each requiring a response on a scale of 1 – 7 there are 96,889,010,407 possible unique combinations of answers. In reality, given the skewed nature of the data, many of these combinations do not appear within the dataset, which contains 135 different combinations of answers. As discussed in Chapter Four, a range of statistical indicators are commonly employed to indicate how many groups are required to represent the heterogeneity found within a sample, but the final decision on the appropriateness of any solution should also be guided by how useful the groupings identified are for answering the research question posed.

Table 5.6 presents the different indicators discussed in the previous chapter. The Lo-Mendell-Rubin likelihood ratio test (LMR) provides the lowest indication of a number of groups, suggesting that two classes are sufficient to represent the heterogeneity of the sample, a finding which seems unlikely given the relatively complex pattern of relationships identified in the previous factor analysis.

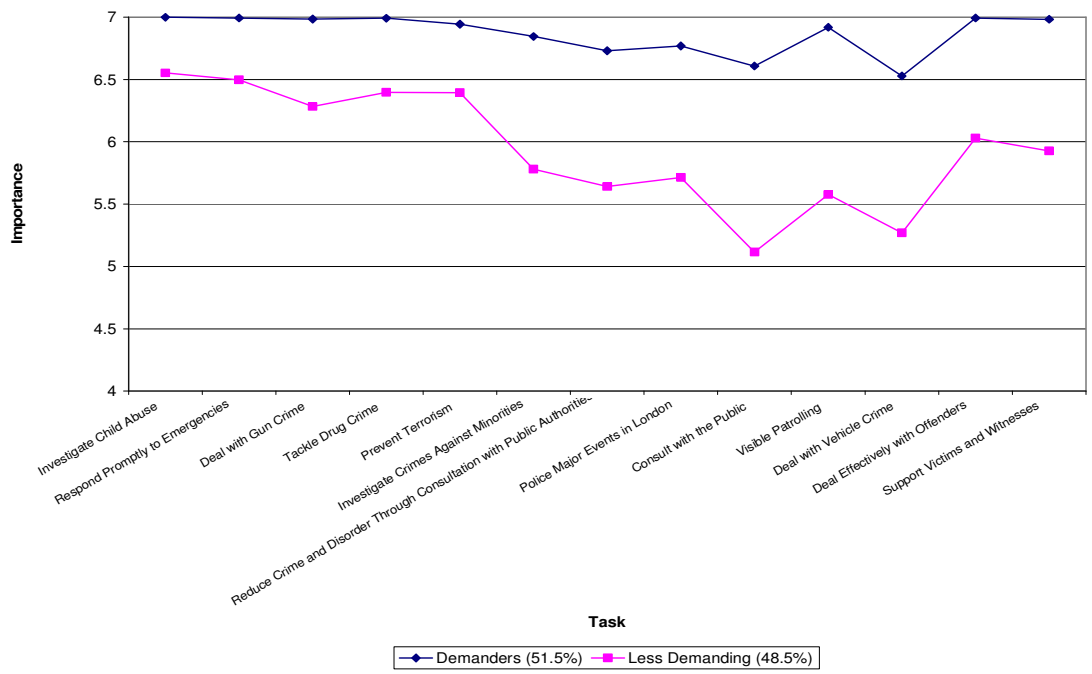
Figure 5.4 shows the two class model suggested by the LMR test. In effect, the population is split in two. One group see all tasks as highly important, while the second group includes anyone who marked a relatively low importance for one or more functions, irrespective of which functions these were. While this solution is almost certainty too simplistic to provide an in-depth understanding of individuals' priorities for policing, it does serve to illustrate a few useful points, both methodological and substantive.

Table 5.6: Group Selection and Entropy Statistics for LCA Models of Preferences for City-wide Policing (Original Responses)

Groups	Log L	AIC	BIC	ABIC	Percent Change in BIC	Entropy	LMR	Bivariate Residuals
1	-88641.28	177438.56	177974.64	177726.76	n/a	n/a	n/a	57.54
2	-72879.87	146073.74	147152.77	146653.85	-17.32	0.94	0.00	41.50
3	-69041.14	138554.28	140176.26	139426.30	-4.74	0.97	**0.07**	37.02
4	-66910.52	134451.04	136615.96	135614.96	-2.54	0.94	1.00	24.93
5	-64841.85	130471.70	133179.57	131927.53	-2.52	0.91	1.00	19.99
6	-64130.30	129206.60	132457.42	130954.33	-0.54	0.91	1.00	13.61
7	-63603.25	128310.51	**132104.27**	130350.14	-0.27	0.89	1.00	12.24
8	-63276.02	127814.04	132150.76	130145.58	0.04	0.88	1.00	11.80
9	-63025.24	127470.48	132350.15	130093.92	0.15	0.88	1.00	11.54
10	-62767.85	127113.70	132536.32	**130029.05**	0.14	0.88	1.00	10.83
11	-62551.36	126838.71	132804.28	130045.96	0.20	0.88	1.00	8.74
12	-62339.58	126573.17	133081.68	130072.33	0.21	0.89	1.00	8.61
13	-62138.87	126329.74	133381.20	130120.80	0.23	0.88	1.00	8.24

Firstly, Figure 5.4 provides an example of how an LCA solution can be presented graphically. Within the graph each line represents one group and the points of that line represent that group's average level of importance for the different functions listed on the x-axis. Hence it is possible to say that for all functions the group labelled "Demanders" (who make up just over half the sample) express a higher level of importance than the group labelled "Less Demanding". It is also possible to compare across a line to make statements about the relative importance of different functions, so for instance the graph would suggest that, on average, those people in the "Less Demanding" group attach greater importance to preventing terrorism than they do to public consultation. This analysis can be expanded further by making statements across both groups. For instance, across both classes, preventing terrorism is generally seen as more important than consulting with the public. Sorting the tasks into an order that reflects the earlier factor analysis results allows for generalisations to be made about which forms of policing different people might favour. For instance, both groups appear to attach most importance to protective policing (the left-hand end of the graph), followed by police involvement in the criminal justice system (the right-hand edge of the graph) with the least importance attached to community policing (those tasks around the middle of the graph).

Figure 5.4: LCA Two Group Representation of Preferences for City-wide Policing (Original Responses)



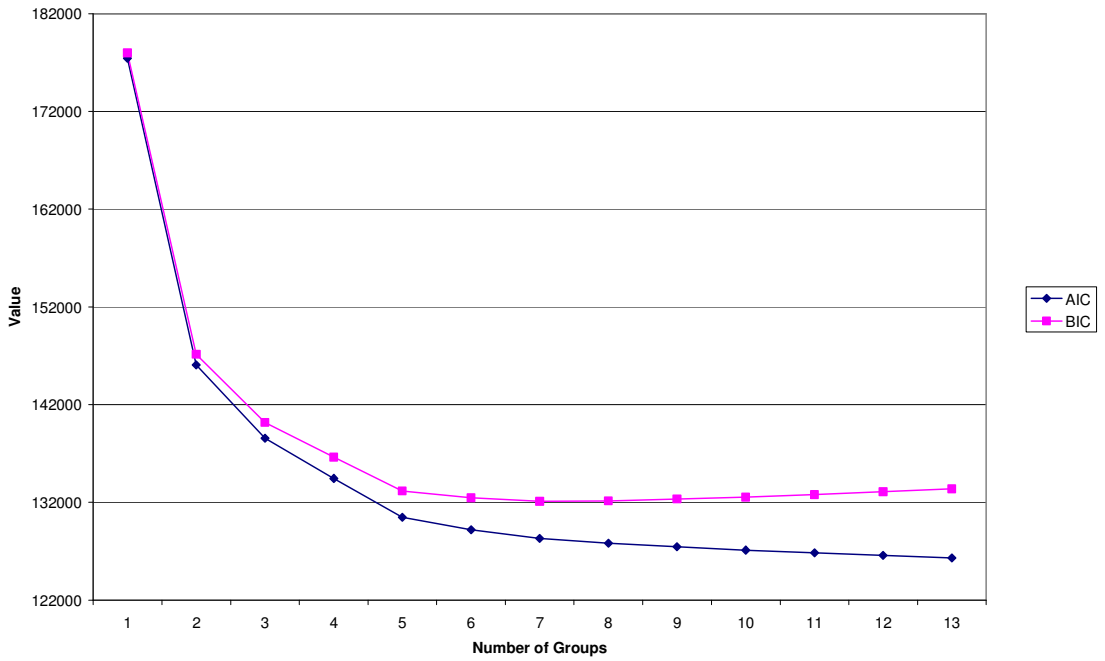
36 respondents did not answer any of the 13 questions and are dropped from the analysis. n=7135.

It is also worthy of note that the LCA model presented in Figure 5.4 mirrors the conclusions based on the analysis earlier in this chapter. Firstly, within both classes there appears to be a high level of consistency across those tasks which the EFA and correlation results suggested were strongly related. Secondly, as suggested by Figure 5.1, on average, the importance attached to each function is skewed towards the top of the available scale with even the lower of the two groups in Figure 5.4 attaching an average importance of at least five out of seven to every function.

The ability of LCA to support statements concerning the overall importance respondents attach to policing and the relative importance they attach to different policing tasks suggests this method could prove useful for developing an indicator of preferences for policing.

Figure 5.5 shows a graph of the AIC and BIC statistics in Table 5.6. As discussed in Chapter Four, until recently, information criteria statistics (and in particular the BIC) have been the major indicator used to decide the optimal number of classes in an LCA model. Looking at the BIC statistic in absolute terms indicates that seven groups should be used to model the heterogeneity in the sample. The ABIC statistic suggests ten classes. The AIC statistic does not appear to lend itself to an absolute interpretation as it continues to gradually fall as the number of groups increases.

Figure 5.5: AIC and BIC Statistics for LCA Solutions Concerning Preferences for City-wide Policing (Original Responses)



Applying a scree-plot interpretation to the AIC and BIC statistics helps to provide some explanation for why the LMR test indicates that a two group solution is appropriate. Both information criterion statistics improve rapidly with the move from one to two groups and only gradually after this point, suggesting that while adding additional groups (at least up to seven) may be improving the fit of the model to the data, the improvements are much less than was achieved through the initial move from one group to two groups. Taking this scree-plot interpretation of Figure 5.5 further suggests that the improvement in model fit between five groups and seven groups is only very marginal (a point

supported by the percentage change in BIC given in Table 5.6). This suggests that a model with five or six groups could potentially be considered preferable to the seven group model if it captures the majority of variation included in the sample. A similar conclusion is supported by the ABIC statistics in Table 5.6.

Figure 5.6 provides a plot of the log-likelihood statistics provided in Table 5.6. Rather unsurprisingly, given that the AIC and BIC statistics are derived from the log-likelihood, a scree-plot interpretation of Figure 5.6 also suggests that an LCA solution incorporating around five groups could be appropriate.

Figure 5.6: Log-likelihood Statistic for LCA Solutions Concerning Preferences for City-wide Policing (Original Responses)

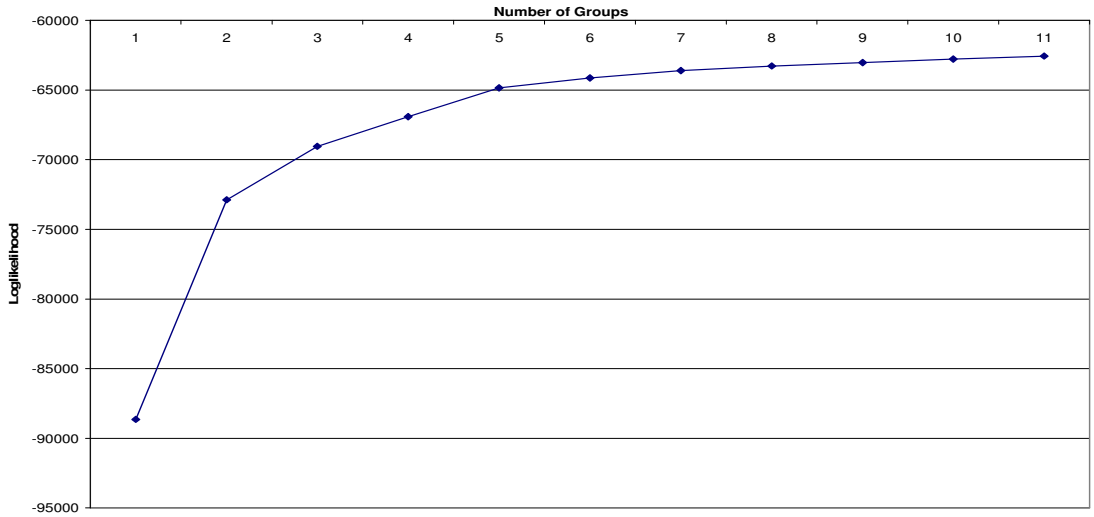


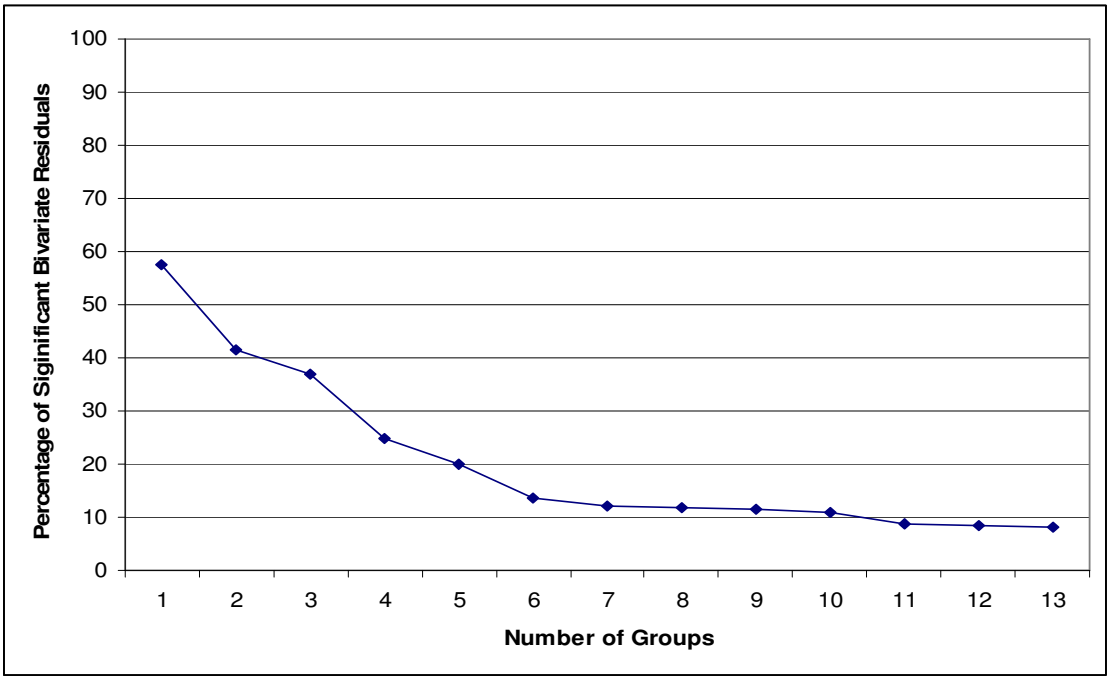
Figure 5.7 shows the percentage of bivariate residuals which are statistically significant at the 0.05 level. As noted in Chapter Four, this percentage falls as the fit of the model improves, the levelling out of the curve giving an indication as to the number of groups which might provide a good approximation of the heterogeneity present within the dataset. In Figure 5.7, this flattening out seems to occur at seven groups, a conclusion which matches that provided by an absolute interpretation of the BIC statistic.

While not strictly a model selection criterion, a low entropy value would suggest that a model includes two or more groups which exhibit similar characteristics, making it difficult to reliably classify cases. This could indicate that different classes within the model could be combined to create a more parsimonious solution. All the entropy values shown in Table 5.6 are very similar suggesting this does not need to be considered when deciding on the final model.

Overall, the different indicators considered lend strong support to the idea that seven is the optimal number of groupings in this case (see Figure 5.7 and a strict interpretation of the BIC). However, these indicators also suggest that this solution may be only marginally better that the five group and six group solutions (see the relatively flat nature of the AIC, BIC and log-likelihood values around this point). As such, it is worth comparing all three of these solutions to see if either of the simpler solutions may be more substantively relevant.

Figures 5.8 to 5.10 show the five, six, and seven group LCA solutions. In fitting with the earlier analysis, all these solutions suggest that, on average, respondents attach a relatively high level of importance to all the tasks they are asked to consider (the vast majority of the average ratings shown are above four out of seven). Similarly, respondents generally see those functions associated with protective policing as more important than those representing community policing. Despite these findings, it would appear that these LCA solutions do support the view that the two group solution is too simplistic as they include several mixes of preference which were not well represented in Figure 5.4.

Figure 5.7: Percentage of Bivariate Residuals Significant at the 0.05 Level for Each LCA Solution (City-wide Policing Original Responses)



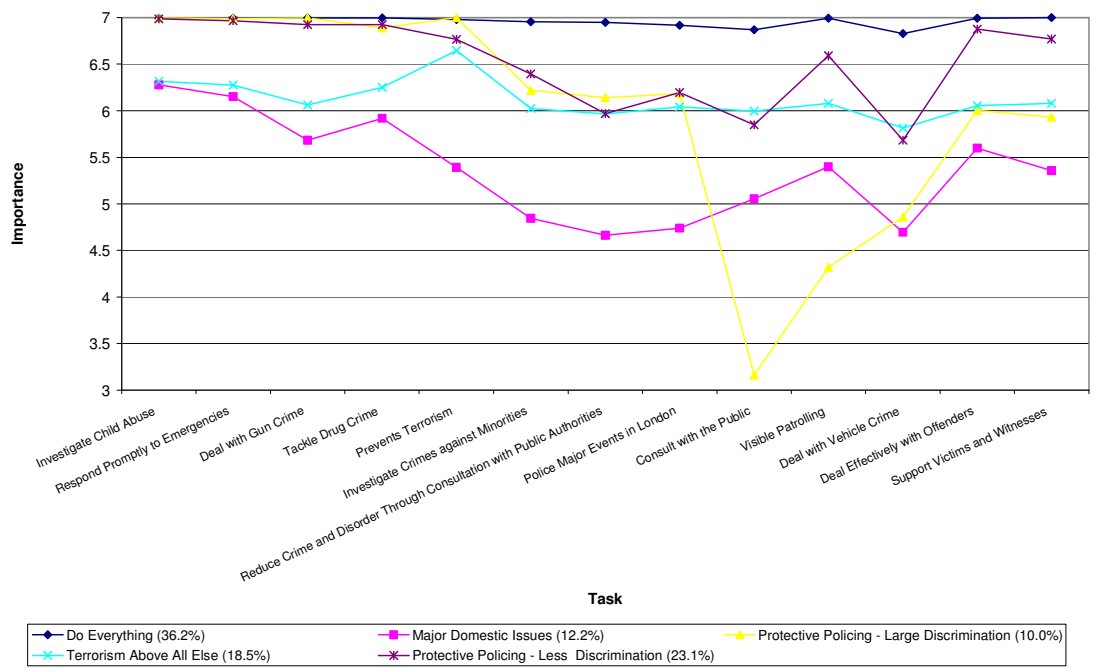
In fitting with the finding that a large proportion of respondents see all tasks as highly important, the five group solution (Figure 5.8) includes one group that sees all tasks as having an importance rating of approximately seven out of seven (accounting for over one third of the sample). The next largest group of respondents (23.1%, identified as "Protective Policing – Less Discrimination") generally attach a high importance to all forms of policing, but display a slight preference for those tasks which could be argued to represent a stereotypical view of the role of the police (protecting people from crime, along with "Visible Patrolling", "Dealing with Offenders" and "Support for Victims and Witnesses").

A further 10 percent of the sample (identified as "Protective Policing – Large Discrimination") seem to hold similar relative preferences (i.e. having less concern for community policing) but with a much greater divergence in the level of importance they attach to the stereotypical or protective policing tasks, relative to community policing.

Of particular note in this group is the extremely low importance that this group attach to "Consulting with the Public". This could be an indicator that their prime concern is with the police successfully protecting them rather than them having any real involvement with the police.

A further group (representing 12.2%) seem to follow a similar pattern to the previous two groups (albeit at a lower absolute level) with the exception that they seem to attach a lower importance to "Preventing Terrorism" compared to the other protective policing functions considered, in effect this group seem to be more concerned with "major domestic issues".

Figure 5.8: LCA Five Group Representation of Preferences for City-wide Policing (Original Responses)



36 respondents did not answer any of the 13 questions and are dropped from the analysis. n=7135.

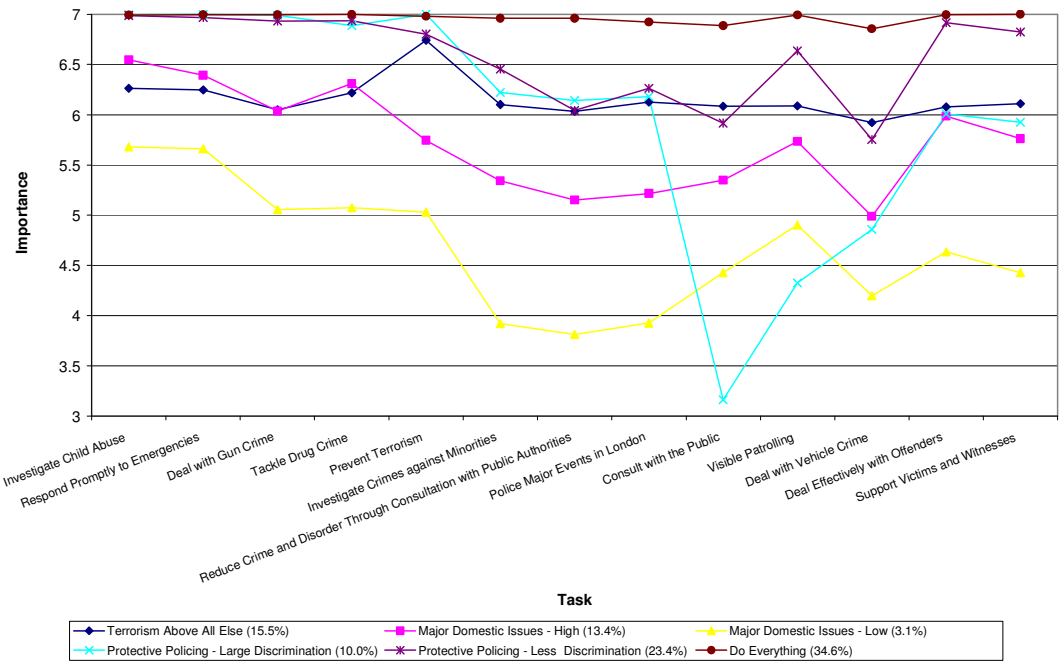
The final group in Figure 5.8 (representing 18.5% of the sample) attaches relatively equal priority to all functions with the exception that they attach a higher level of importance to the task of "Preventing Terrorism" than to any other function (hence they are referred to as "Terrorism Above All Else").

The six group solution shown in Figure 5.9 appears to include groups with similar patterns of preference to those in Figure 5.8. The main difference is that there are now two groups of respondents who favour the police concentrating on major domestic issues. These two groups appear to show respondents who exhibit similar relative preferences but are separated by the overall level of importance they attach to policing. Of these two groups, the one with the lowest average overall level of importance represents just 3.1 percent of the overall sample. This suggests that the inclusion of this group adds little to the overall picture of the pattern of preferences present within the data.

Figure 5.10 shows the seven group LCA solution. This solution appears very similar to the two solutions discussed previously except that those individuals who appear relatively concerned with seeing the police address major domestic issues are now split into three groups (one with a lower average level of importance, 2.8% of the sample, one with a medium overall level of importance, 8.6% of the sample, and one with a higher average level of importance, 12.6%).

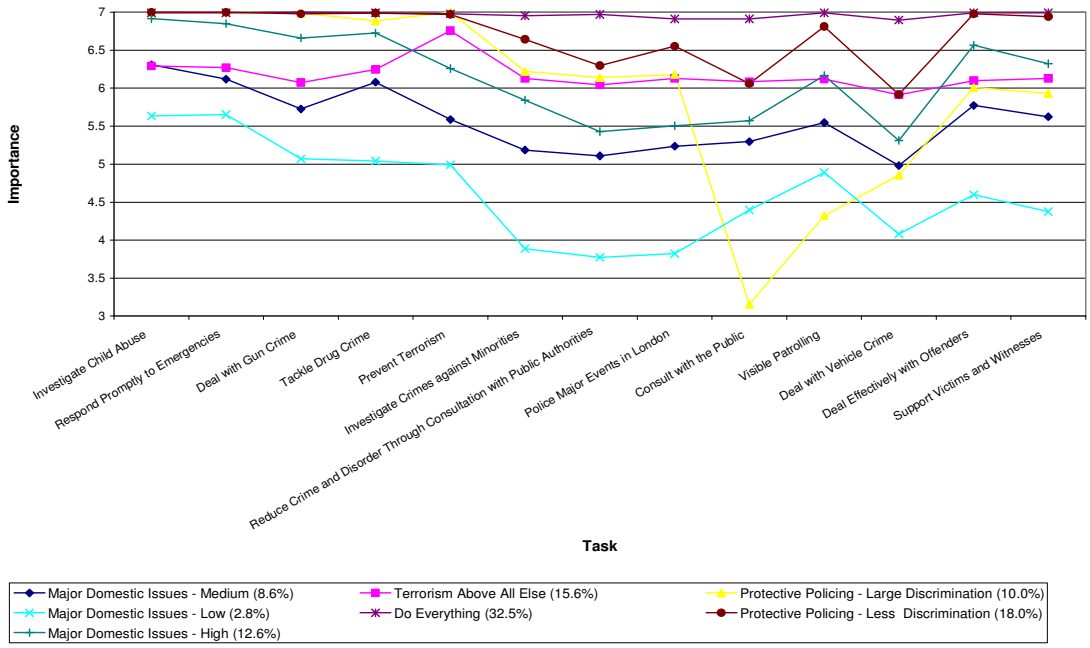
Comparing Figures 5.8, 5.9 and 5.10 suggests that moving from a five group solution to a six or seven class model does not identify any new groups of respondents who exhibit radically different preferences. Such a conclusion suggests that the five group solution could be the most useful for representing preferences towards city-wide policing, particularly if it is the relative importance respondents attach to different policing tasks which is of most interest.

Figure 5.9: LCA Six Group Representation of Preferences for City-wide Policing (Original Responses)



36 respondents did not answer any of the 13 questions and are dropped from the analysis. n=7135.

Figure 5.10: LCA Seven Group Representation of Preferences for City-wide Policing (Original Responses)



36 respondents did not answer any of the 13 questions and are dropped from the analysis. n=7135.

5.2 Relative Importance Attached to City-wide Policing Tasks

The analysis presented above lends weight to the view that different people within London might attach different levels of importance to different policing tasks, supporting Hypothesis 1 in Chapter 2. However, two issues can be raised concerning the usefulness of the results presented so far. While it is pleasing to discover initial evidence of differences in the overall importance respondents attach to policing as well as the relative importance of each function, it is not clear how genuine these differences are. Although the final decision on the number of groups needed to provide a reasonable summary of the data appears to be well supported by both the statistical analysis and substantive interpretation, the decision is by no means clear cut. The fact that most respondents attached high importance to nearly all functions means it is not clear how genuine the differences between groups in terms of overall, rather than relative, importance really are. They could just as easily be a function of the ways in which different individuals have interpreted the questions.

Secondly, the original questions could be seen as of limited relevance to policy discussions. The questions provide no constraint on the ability of respondents to rate every issue as "most important". Therefore, it is of little surprise that approximately one third of the sample appears in a group which reflects this wish. However, policing policy must be created within the constraints of finite resources and it could be argued that it is the relative importance of the different functions which is therefore more important. If it is the relative importance attached to different policing tasks which is of most interest then it could be argued that the those groups which see protective policing functions as most important, but exhibit different overall levels of importance actually represent a single set of policy preferences. Therefore, there may be some value in recoding the original responses to reflect the relative importance respondents attach to different functions. The following procedure was used to create a set of indicators concerning the relative, rather than absolute, level of importance respondents attached to different tasks;

each respondent's median level of importance was calculated using all the answers they had provided. Their original answers were then recoded relative to their median rating:-

0 if that function was given a rating below the respondent's median rating.
1 if the function was equal to the respondent's median rating.
2 if that function was given a rating above the respondent's median rating.

Given the relationship between the average level of importance respondents attached to policing and the number of questions they answered (Table 5.1), subsequent analysis is restricted to those respondents who expressed an opinion about at least eight of the functions under consideration[20]. Recoding variables to reflect the relative importance respondents attach to different functions means it is no longer meaningful to discuss the overall importance respondents attach to policing, as, by design, each respondent should average one across the derived variables.[21]

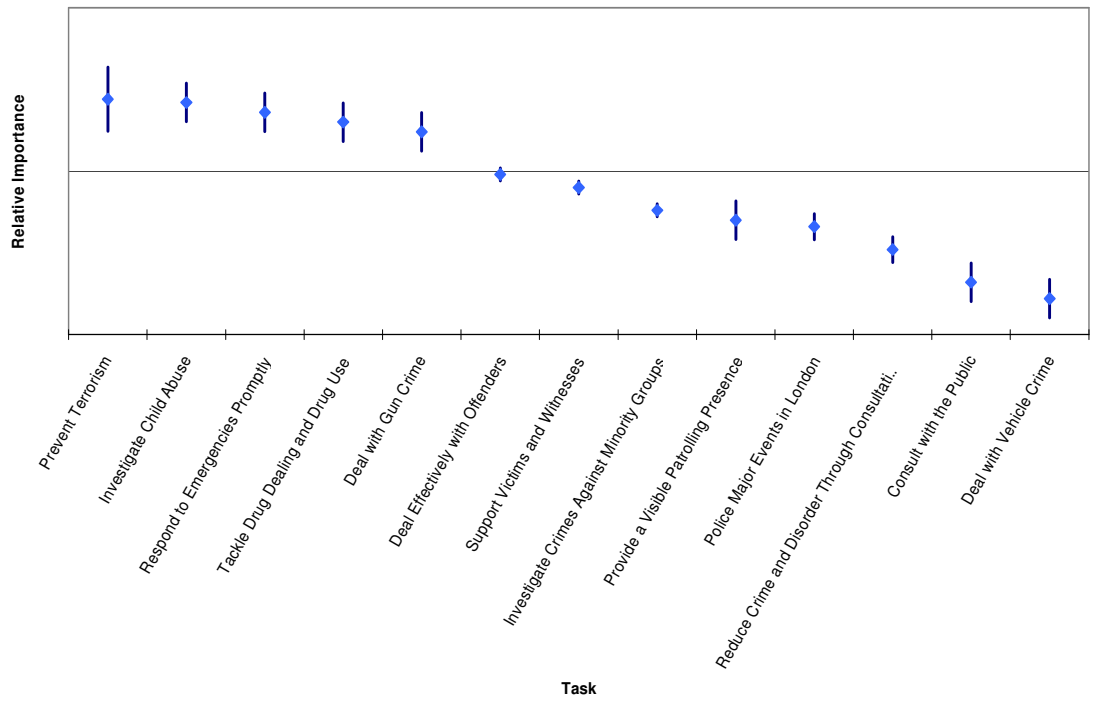
[20] While Table 5.1 might suggest that the relationship between the number of questions answered and a respondent's average importance rating might be robust once they answered at least seven questions, restricting the sample to those who have only answered at least eight questions is likely to be more reliable and results in the loss of only six additional respondents (representing 0.01% of the total sample).

[21] In reality, a respondent's average score across the new variables will only be equal to 1 if they have an equal number of functions with importance ratings above and below their median importance rating. It is possible that this may not be the case. Consider a respondent who answers all 13 questions. They rate twelve tasks as having an importance of seven out of seven, and the remaining task as six out of seven. Their median score will therefore be seven and they would have twelve derived variables equal to one (equal to median) and one derived variable equal to zero (below their median). The mean for these derived variables would be 0.92 rather than one. However, these differences are a function of how the derived variables were created rather than signifying a difference between respondents in terms of the overall level of importance they attach to policing.

5.2.1 Replication of Existing Dependent Variables – Individual Scores for each Function

Figure 5.11 presents the importance attached to each function, averaged across the whole sample, using the derived variables of relative importance. Rather unsurprisingly, this ordering is very similar to that shown in Figure 5.2 (Spearman Rho = .967, p>0.001). This supports the view that the public attach more importance to protective and emergency policing than functions commonly associated with community policing.

Figure 5.11: Mean Relative Importance for Each Policing Function Considering London as a Whole



Sample size varies between questions, approximately 7000. Analysis involves only those cases which have answered at least 8 out of the 13 questions (n=7112). Blue dots show the mean score for each function. Navy blue bars represent 95% confidence intervals.

Table 5.7 provides polychoric correlations between the indicators of relative importance. As with Table 5.2, the order of variables is aimed at reflecting the two broad categories of protective and community policing. As a result of the design of these derived variables, and in contrast to Table 5.2, Table 5.7 does feature negative correlations (highlighted in red). The mean absolute correlation is 0.179, and following the logic of Table 5.2, correlations which are greater than this are highlighted in bold[22]. Fitting with the expectation that those who discriminate between different functions are likely to attach similar importance to those functions which represent an underlying approach to policing, the strongest positive correlations appear in the top left and bottom right of Table 5.7. Most negative correlations are to be found in the bottom left of Table 5.7, showing how respondents who attach relatively more importance to protective policing attach less importance to community policing and vice versa.

[22] Given the nature of the derived variables, it could be expected that the magnitude of the positive and negative correlations should cancel each other out. However, given that the derived variables do not match the perfect pattern of an equal number of functions above and below each median importance rating this is not the case (see Footnote 18). The average correlation is 0.120. The absolute correlation considers only magnitude, not direction.

Table 5.7: Pairwise Polychoric Correlations of the Relative Importance Respondents Attach to Different Policing Functions when Considering London as a Whole

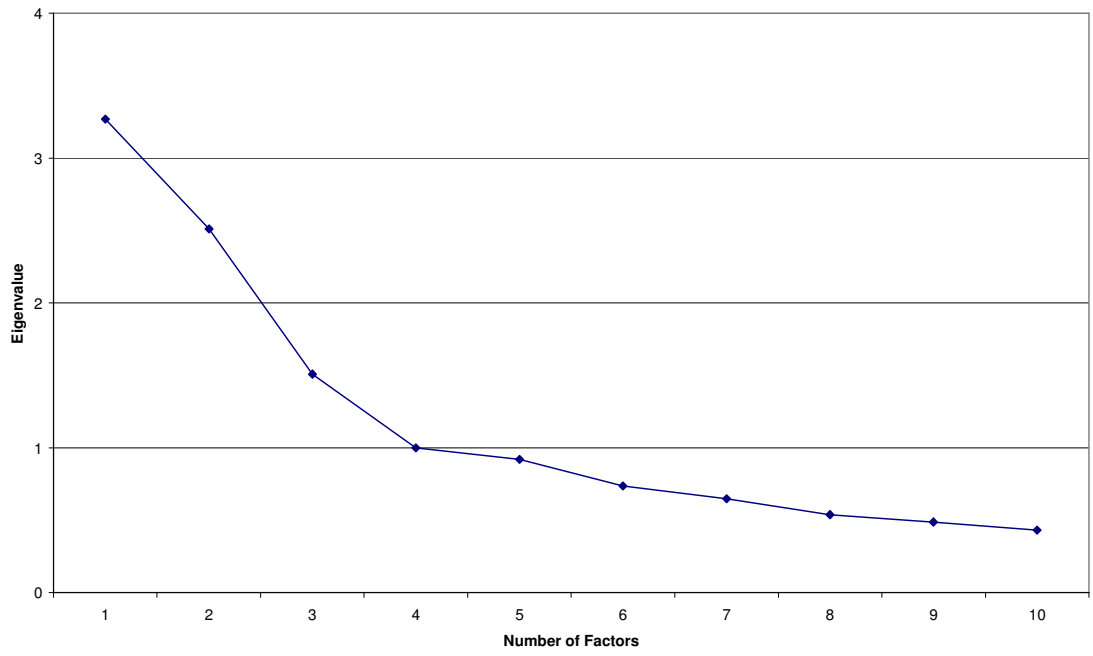
	Task	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Prevent Terrorism	1.000												
2	Investigate Child Abuse	**0.336****	1.000											
3	Respond to Emergencies Promptly	**0.471****	**0.626****	1.000										
4	Tackle Drug Dealing and Drug Use	**0.345****	**0.663****	**0.475****	1.000									
5	Deal with Gun Crime	**0.388****	**0.490****	**0.552****	**0.434****	1.000								
6	Deal Effectively with Offenders	0.017**	0..178**	**0.227****	0.085**	0.150**	1.000							
7	Support Victims and Witnesses	-0.075**	0.082**	0.036*	-0.048**	-0.059**	**0.461****	1.000						
8	Investigate Crimes Against Minority Groups	**0.211****	0.027	0.110**	0.030	0.050**	0.079**	0.099**	1.000					
9	Provide a Visible Patrolling Presence	-0.135**	**-0.236****	-0.122**	-0.165**	**-0.305****	0.073**	0.092**	0.072**	1.000				
10	Police Major Events in London	**0..282****	0.088**	0.116**	**0.209****	0.049**	0.008	0.133**	**0.234****	-0.043*	1.000			
11	Reduce Crime and Disorder Through Consultation with Public Authorities	**0.223****	0.038*	0.130**	0.038*	0.032	0.037*	0.088**	**0.492****	0.038*	**0.340****	1.000		
12	Consult with the Public	-0.093**	-0.164**	**-0.218****	-0.146**	**-0.264****	0.066**	**0.298****	0.100**	**0.353****	**0.319****	**0.234****	1.000	
13	Deal with Vehicle Crime	0.002	**-0.235****	**-0.181****	-0.152**	0.099**	0.086**	0.139**	0.175**	**0.341****	**0.252****	**0.452****	**0.483****	1.000

Correlations shown are based on Polychoric correlations calculated in Stata 9 to take account of ordinal nature of the variables under consideration. ** indicates correlations are significant at 0.01 level. * indicates correlations are significant at 0.05 level (although these calculations are not based on robust standard errors to account for clustering of cases). Sample size varies between correlations due to missing data, approximate sample size is 7000. Negative correlations shown in red. Correlations greater than the absolute mean of 0.179 are shown in bold.

5.2.2 Identifying Underlying Approaches or Groups – Factor Analysis

As with the original responses discussed above, EFA can provide a good indication of possible groups of functions which appear to be rated in similar ways and may be taken together to represent underlying attitudes towards policing. Figure 5.12 shows an eigenvalue plot for this analysis. This plot flattens out from four factors onwards, suggesting that this could provide an optimal number of factors to explain the different relationships in the sample. The four factor solution is presented in Table 5.8.

Figure 5.12: Eigenvalues for EFA of the Relative Importance Respondents Attach to Different Policing Functions when Considering London as a Whole



Exploratory factor analysis conducted using MPlus 4.2 to account for ordinal nature of variables and missing data. Analysis involves only those cases which have answered at least 8 out of the 13 questions (n=7112).

The EFA results concerning relative importance appear to bear a strong resemblance to those for the original responses. Once again the functions "Deal Effectively with Offenders" and "Support Victims and Witnesses" load on to a single factor. A factor representing the idea of protective policing can also be identified, although under the new metric, the task of "Preventing Terrorism" now loads strongly on to this factor. This finding can be seen as being more intuitive than the previous results. This may provide evidence that the new variables offer a more substantively consistent picture of people's

preferences towards policing. While the major loadings for the different "community policing" tasks are slightly different from those presented in Table 5.3, they do still present two factors which provide a logical separation; one covering activities that are likely to see direct interaction between the police and a large number of people (e.g. "Consult with the Public", "Police Major Events in London" and "Provide a Visible Patrolling Presence"); and another covering tasks, which while they may be of great significance for a local area, need not see the police directly involved with many members of the public.

Table 5.8: Promax Rotation Factor Loadings for Four Factor Solution (City-wide Policing - Relative Importance)

Task	Protective Policing	Community Policing	Criminal Justice System	Visible Community Policing
Investigate Child Abuse	**0.865**	-0.163	0.083	0.096
Tackle Drug Dealing and Drug Use	**0.773**	-0.109	-0.071	0.146
Respond Promptly to Emergencies Promptly	**0.704**	0.090	0.142	-0.101
Deal with Gun Crime	**0.581**	0.062	0.059	-0.175
Prevent Terrorism	**0.493**	0.298	-0.160	-0.027
Reduce Crime and Disorder Through Consultation with Public Authorities	-0.066	**0.851**	0.013	-0.043
Investigate Crimes Against Minority Groups	-0.048	**0.612**	0.077	-0.121
Deal with Vehicle Crime	-0.197	**0.395**	0.037	0.347
Deal Effectively with Offenders	0.102	0.029	**0.902**	-0.086
Support Victims and Witnesses	0.050	-0.003	**0.476**	0.230
Consult with the Public	0.045	-0.062	-0.040	**0.958**
Police Major Events in London	0.260	0.297	-0.110	**0.335**
Provide a Visible Patrolling Presence	-0.215	0.019	0.077	**0.296**

Exploratory factor analysis conducted using MPlus 4.2 to account for ordinal nature of variables and missing data. Analysis includes all cases which answer at least eight questions. n=7112. Bold figures show each function's highest factor loading.

Correlations Between Factors (all correlation significant at the 0.01 level except that between Protective Policing and Criminal Justice System which is significant at the 0.05 level)

	Protective Policing	Community Policing	Criminal Justice System	Visible Community Policing
Protective Policing	1.000			
Community Policing	0.185	1.000		
Criminal Justice System	0.024	0.055	1.000	
Visible Community Policing	-0.307	0.374	0.244	1.000

The correlations between the factors present an interesting picture. Many of the correlations are relatively weak, suggesting that the different factors are indeed identifying relatively unique underlying concepts. The relatively strong correlation between the two "community policing" factors suggests that while there may be substantive differences between them, those respondents who see one form of community policing as important are more likely to attach high importance to all community related policing tasks. The negative correlation between "Protective Policing" and "Visible Community Policing" suggests that those respondents who see one of these approaches as important often tend to do so at expense of the other.

Tables 5.9 and 5.10 present the three factor and five factor EFA solutions for the data considered in Table 5.8. While it is possible to provide strong substantive interpretations of the factors identified in both models, they both contain at least one factor which is defined by strong negative loadings (highlighted in red). These negative loadings suggest that an individual's score on these factors will largely reflect what they wish to see the police spend less time on, rather than indicating the types of policing they support. This need not be a problem if, as is commonly the case, factor analysis is intended to best capture patterns of variance within the original data. However, that is not the case here, where factor analysis is intended to group together different functions to aid the interpretation of the subsequent LCA models. Hence the primary interest is in identifying groups of functions which might receive similar ratings from respondents. The four factor model therefore seems to be most useful for helping interpret any subsequent LCA models. Once again, these EFA results lend weight to the expectation that the importance respondents attach to particular policing tasks may reflect a wider belief about how the police should function, supporting Hypothesis One in Chapter Two.

Table 5.9: Promax Rotation Factor Loadings for Three Factor Solution (City-wide Policing - Relative Importance)

Task	Protective Policing	Community Policing	Not Criminal Justice System
Investigate Child Abuse	**0.813**	-0.077	-0.195
Respond Promptly to Emergencies Promptly	**0.793**	0.041	-0.135
tackle Drug Dealing and Drug Use	**0.670**	0.034	-0.029
Deal with Gun Crime	**0.669**	-0.019	-0.004
Prevent Terrorism	**0.521**	0.337	0.203
Deal Effectively with Offenders	**0.270**	-0.086	**-0.674**
Support Victims and Witnesses	**0.079**	0.043	**-0.682**
Police Major Events in London	0.161	**0.524**	0.013
Investigate Crimes Against Minority Groups	0.108	**0.487**	0.034
Reduce Crime and Disorder Through Consultation with Public Authorities	0.086	**0.737**	0.086
Deal with Vehicle Crime	-0.260	**0.604**	-0.098
Consult with the Public	-0.289	**0.447**	-0.260
Provide a Visible Patrolling Presence	**-0.306**	**0.180**	-0.171

Exploratory factor analysis conducted using MPlus 4.2 to account for ordinal nature of variables and missing data. Analysis includes all cases which answer at least eight questions; n=7112. Bold figures show each function's highest factor loading. Red figures show where the strongest factor loading associated with a question is negative.

Table 5.10: Promax Rotation Factor Loadings for Five Factor Solution (City-wide Policing - Relative Importance)

Task	Protective Policing	Community Policing	Not Criminal Justice System	Support Victims and Witnesses	Not Community Policing
Investigate Child Abuse	**0.835**	-0.163	-0.105	0.017	-0.066
Tackle Drug Dealing and Drug Use	**0.776**	-0.145	0.081	-0.02	-0.154
Respond Promptly to Emergencies Promptly	**0.765**	0.105	-0.124	-0.121	0.174
Deal with Gun Crime	**0.572**	0.067	-0.048	0.077	0.154
Prevent Terrorism	**0.509**	0.270	0.180	-0.008	-0.004
Deal Effectively with Offenders	**0.134**	0.045	**-0.764**	-0.024	0.078
Provide a Visible Patrolling Presence	**0.058**	-0.035	0.017	**-1.005**	-0.066
Reduce Crime and Disorder Through Consultation with Public Authorities	-0.061	**0.833**	-0.015	0.045	-0.030
Investigate Crimes Against Minority Groups	-0.016	**0.596**	-0.065	-0.015	0.080
Deal with Vehicle Crime	-0.173	**0.364**	-0.037	-0.150	**-0.322**
Police Major Events in London	0.209	**0.236**	0.083	0.138	**-0.470**
Support Victims and Witnesses	0.004	-0.009	**-0.598**	**0.079**	-0.248
Consult with the Public	-0.072	-0.041	-0.062	-0.084	**-0.781**

Exploratory factor analysis conducted using MPlus 4.2 to account for ordinal nature of variables and missing data. Analysis includes all cases which answer at least eight questions; n=7112. Bold figures show each function's highest factor loading. Red figures show where the strongest factor loading associated with a question is negative.

5.2.3 Identifying Underlying Approaches or Groups – Latent Class Analysis

Following the logic of the previous latent class analysis, Table 5.11 shows a range of model selection criteria for the models involving the recoded variables. Rather surprisingly, given that the structure of the recoded variables includes less potential for variation than the original data, an absolute interpretation of the BIC statistic would suggest that at least 13 classes are needed to accurately reflect the variance within the dataset. One aim of recoding the data was to try and produce a more parsimonious solution (consider how the previous LCA analysis produced several groups, which, while they had similar patterns in terms of the relative importance of different functions, were seen as different because their respondents exhibited different absolute levels of importance). Given the reduction in the number of categories used to represent a respondent's opinion towards each policing task, it might be expected that the optimal solution for the derived variables would involve less classes than were needed to model the original data. One possible explanation for this apparent paradox is that, since the recoded variables generally provide a more even spread of cases across the different categories, additional groups which were previously obscured due to the highly skewed nature of the data have now become visible. Thus, whilst the consideration of relative importance might see several of the groups identified in the original analysis amalgamated, it could also lead to the "discovery" of several new groups.

However, considering the BIC in the context of the other indicators in Table 5.11 does suggest that this might provide an overestimate of the number of groups required. Firstly, the Lo-Mundel-Rubin test shows a clear break after 6 groups (highlighted in bold). A scree-plot of the log-likelihood values (shown in Figure 5.13) shows a distinct flattening out at around four to six groups, while a scree-plot interpretation of the AIC and BIC statistics (shown in Figure 5.14) suggests that a model involving between five and seven groups may well be sufficient. A similar conclusion can be reached with reference to the ABIC.

Table 5.11: Group Selection and Entropy Statistics for LCA Models of the Relative Importance Respondents Attach to Different City-wide Policing Functions

Groups	Log L	AIC	BIC	ABIC	Change in BIC	Entropy	LMR	BMFI
1	-66887.79	133827.59	134006.19	133923.57	n/a	n/a	n/a	85.47
2	-55721.00	111548.00	111912.09	111743.66	-16.49	0.98	0.00	65.67
3	-52675.07	105510.13	105805.47	105805.47	-5.46	0.92	0.00	62.82
4	-49932.15	100078.31	100813.35	100473.32	-4.72	0.93	0.00	40.45
5	-49180.53	98629.05	99549.57	99123.75	-1.25	0.90	0.00	26.92
6	-48769.92	97861.85	98967.85	98456.22	-0.58	0.89	0.00	19.94
7	-48459.43	97294.86	98586.34	97988.91	-0.39	0.89	**0.58**	16.67
8	-48201.37	96832.74	98309.69	97626.46	-0.28	0.89	1.00	19.94
9	-47992.55	96469.10	98131.53	97362.50	-0.18	0.89	1.00	16.66
10	-47837.01	96212.031	98059.94	97205.11	-0.07	0.89	1.00	14.24
11	-47695.15	95982.30	98015.69	97075.06	-0.05	0.86	1.00	14.24
12	-47558.64	95763.28	97982.14	96955.72	-0.03	0.86	1.00	13.10
13	-47432.25	95564.51	97968.85	96856.62	-0.01	0.86	1.00	11.82

Figure 5.13: Log-likelihood Statistic for LCA Solutions Concerning Preferences for City-wide Policing (Relative Importance)

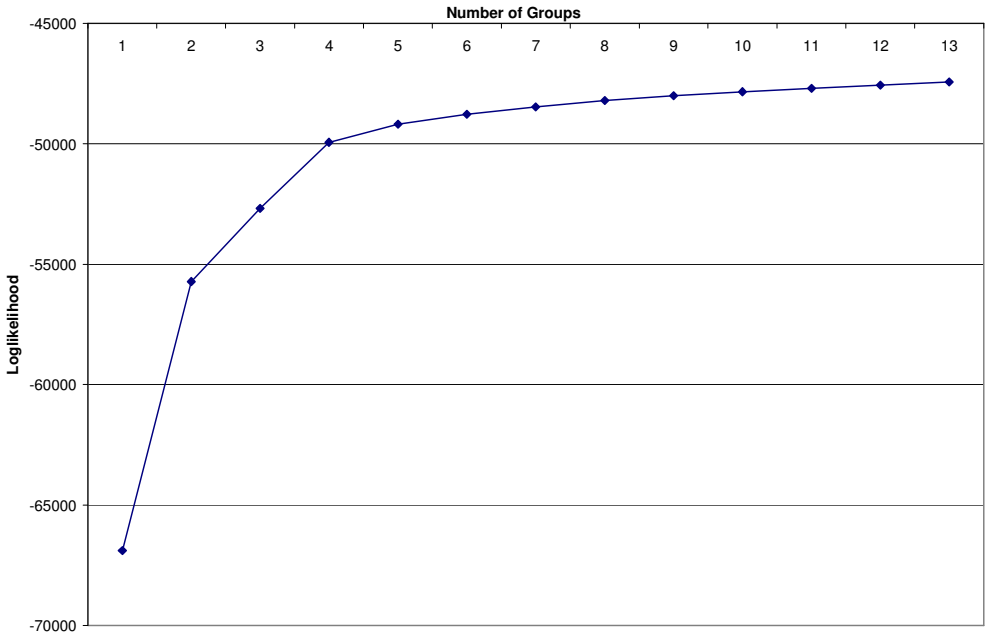
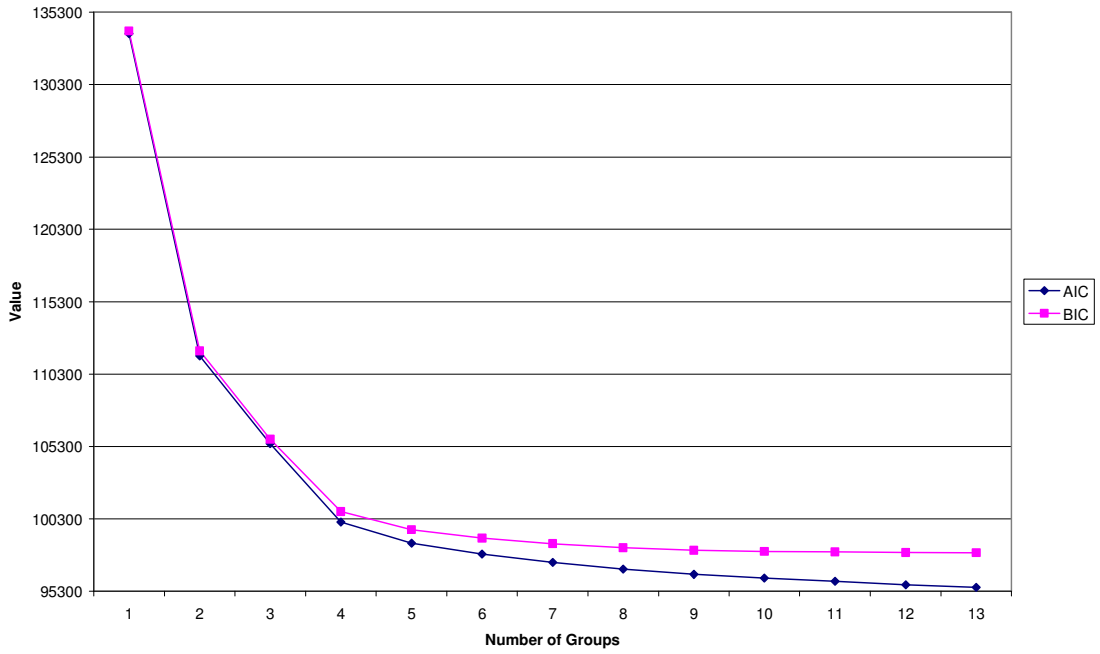
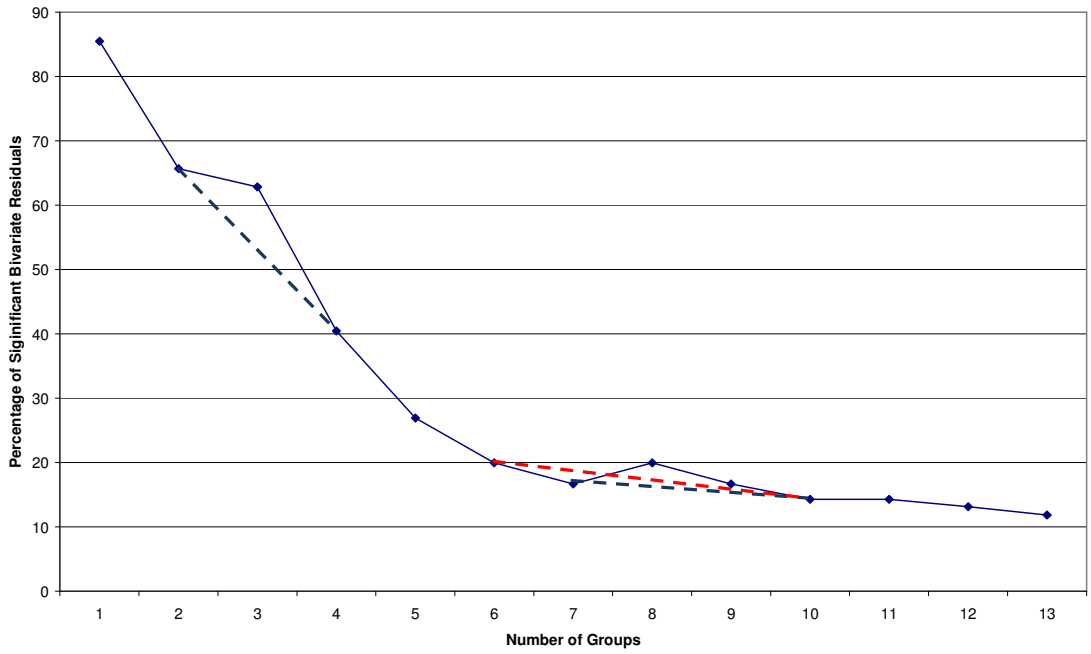


Figure 5.14: AIC and BIC Statistics for LCA Solutions Concerning Preferences for City-wide Policing (Relative Importance)



Finally, Figure 5.15 shows the percentage of bivariate residuals which are significant at the 0.05 level for each solution. The curve contains some "blips" suggesting that the choice of an optimal number of groups may not be as clear-cut as in the case discussed earlier. However, smoothing the curve (as shown by the dashed line) illustrates that the percentage of bivariate residuals which are significant at the 0.05 level falls steeply until around six or seven groups, and becomes much flatter from this point onwards. As with the models described in Table 5.6, all the entropy values in Table 5.11 appear very similar. This suggests that concerns about how reliably cases are classified by different models need not be considered that relevant when deciding between the different solutions identified.

Figure 5.15: Percentage of Bivariate Residuals Significant at the 0.05 Level for Each LCA Solution (City-wide Policing Relative Importance)

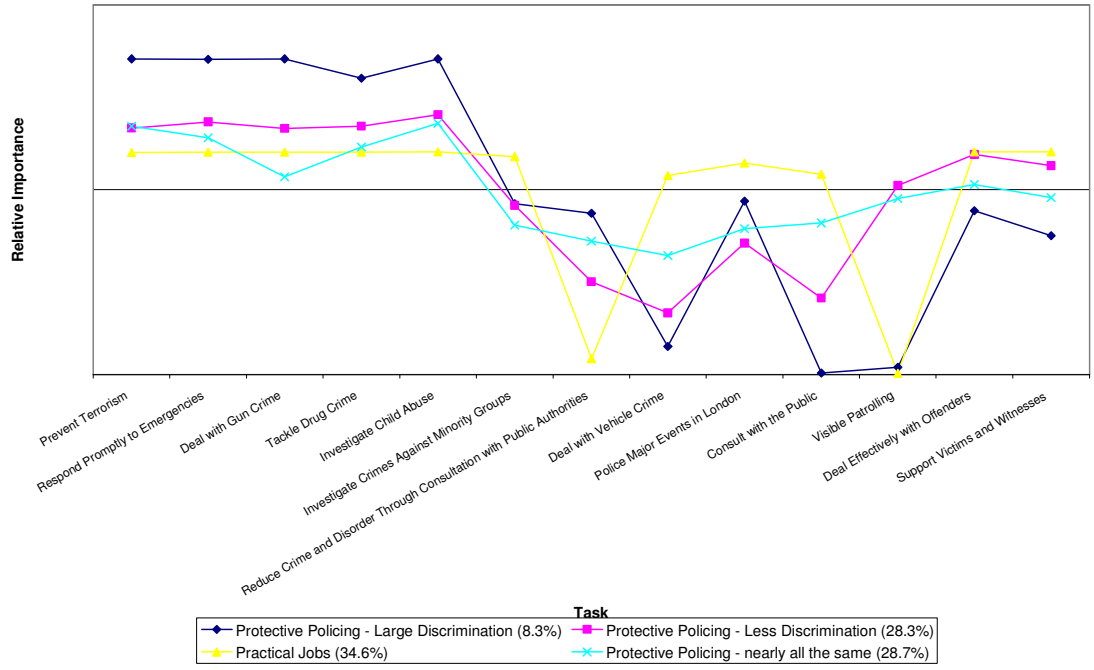


Taking the model indicators as a whole suggests that the most parsimonious solution (which still captures the major differences between most respondents) is going to include at least four groups (based on a scree-plot interpretation of the log-likelihood). Given that models after this point show only marginal improvement in terms of how well they fit the data, the most appropriate way to decide on the final classification would appear to be to consider each model in turn, continuing until the addition of a new class appears not to aid substantive understanding. Figure 5.16 shows the four group solution. As with previous LCA models, the policing tasks are listed in an order which reflects the groupings uncovered in the factor analysis; protective policing to the left of the graph, the two groupings of community policing in the middle and the police's involvement with the rest of the criminal justice system to the right.

While the four group LCA solution does provide an indication that different respondents do attach different levels of importance to different policing tasks, and does provide an indication that, in general, respondents see those tasks associated with protective policing

as most important (a finding which fits with the earlier analysis considering absolute importance), it would appear that the four group solution is probably too simplistic to provide a useful indication of preferences. For instance, the analysis concerning absolute importance identified one group (representing around 30 percent of the overall sample), whose respondents attached a very high level of importance (commonly seven out of seven) to all the functions considered. It might therefore be expected that in an LCA solution based on relative importance there would be one group of respondents who saw all tasks as having equal importance, and no such group is present in Figure 5.16.

Figure 5.16: LCA Four Group Representation of Preferences for City-wide Policing (Relative Importance)

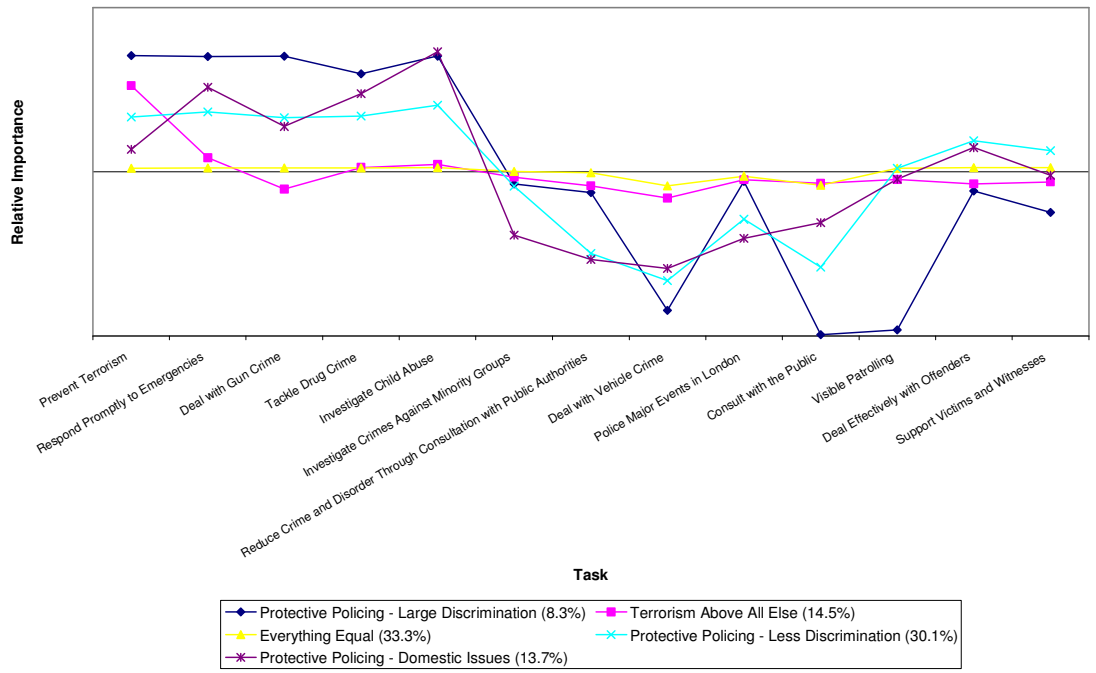


Analysis conducted in MPlus 4.2 and involves only those cases which have answered at least 8 out of the 13 questions (n=7112).

In contrast to the four group solution, the five group solution (shown in Figure 5.17) does appear to reflect the general patterns which were found in the earlier LCA models. Notably, the five group solution includes one group (making up 33.3% of the sample), the members of which appear to see all tasks as roughly equally important, and a second group (making up 14.5% of the sample) which represents seeing preventing terrorism as the police's single most important role. Similarly, Figure 5.17 shows a group

("Protective Policing – Domestic Issues") the members of which appear to attach most importance to the police protecting the public from domestic threats, such as gun crime, but are less concerned with the threat of terrorism (13.7%). Once again, this reflects a pattern revealed in the analysis which focused on the absolute level of importance respondents attached to different policing tasks. Finally, the five group solution identifies two groups the members of which generally see protective policing as more important than community policing, but who vary in the degree to which they see the former role as most important (30.1% of the sample appearing to exhibit only a limited amount of discrimination between the different objectives, while 8.3% of the sample are much more discriminating in respect of how they value tasks such as "Dealing with Vehicle Crime", "Consulting with the Public" and "Visible Patrolling").

Figure 5.17: LCA Five Group Representation of Preferences for City-wide Policing (Relative Importance)



Analysis conducted in MPlus 4.2 and involves only those cases which have answered at least 8 out of the 13 questions (n=7112).

The six group solution (shown in Figure 5.18) appears nearly identical to the five group model with the exception that those respondents who were previously in the "Protective Policing – Less Discrimination" group now occupy two separate groups (see Table 5.12).

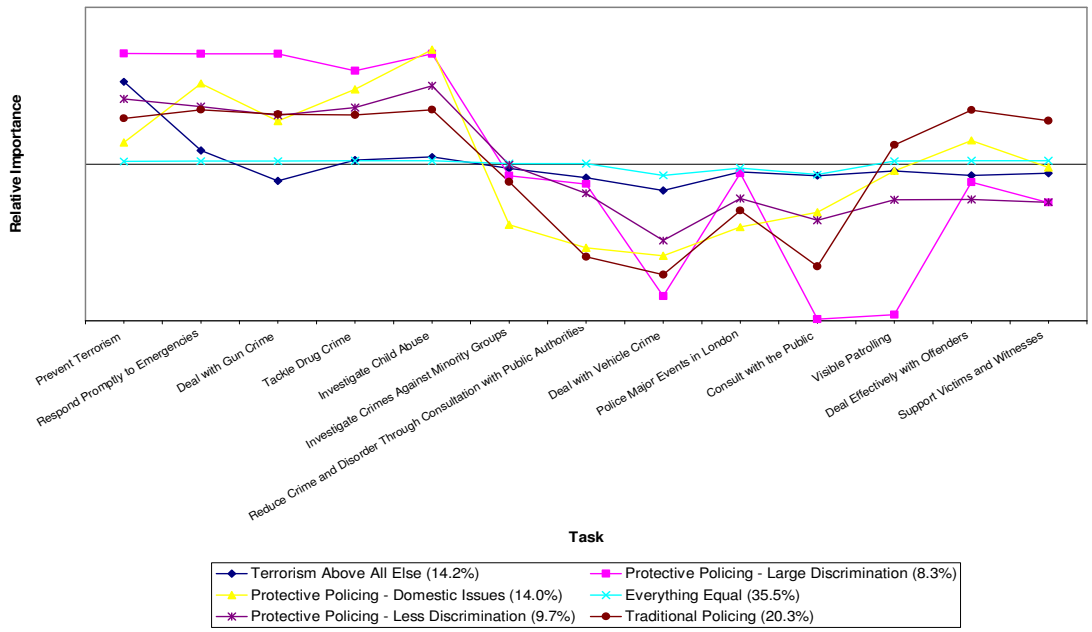
The first of these groups, identified as "Traditional Policing", accounts for 20.3 percent of the sample and shows respondents who favour protective policing, and the police helping to deal with offenders and support victims. These tasks can be seen as representing what many in the public may see as the core functions of the police. The second group, "Protective Policing – Less Discrimination" (representing 8.3 percent of respondents) shows a set of preferences which, once again, wish to see an emphasis on protective policing but with less difference in the importance attached to protective policing relative to other functions.

Table 5.12 suggests that membership of the "Protective Policing- Less Discrimination" and "Traditional Policing" classes in the six group model is drawn almost exclusively from the "Protective Policing – Less Discrimination" group in the five class model. This could be taken as evidence that the six class model is introducing unnecessary variation and that the five class model should be preferred. However, Figure 5.19 compares the two groups in the six class model with the single group from the five class model. This suggests a substantive difference between the two groups in the six class model, particularly concerning the importance they attach to the police "Dealing with Offenders" and "Supporting Victims and Witnesses". This supports the view that using six, rather than five, classes may aid in identifying meaningful differences in respondents' preferences for policing.

The groups identified in the seven class solution are broadly similar to those identified in the six class solution except for a new group which appears to show a slight preference for protective policing, particularly preventing terrorism and dealing with gun crime, identified as "Protective Policing Hardly Any Difference". Table 5.13 shows that those respondents who appear in this group are drawn from the "Terrorism Above All Else" group in the six class model. Although the respondents in this group may attach less relative importance to preventing terrorism than the 7.3 percent of respondents who remain in the "Terrorism Above All Else" group, it is this issue (along with responding

promptly to emergencies) which they seem most concerned about. It can therefore be argued that the original classification does provide an approximation of their concerns.

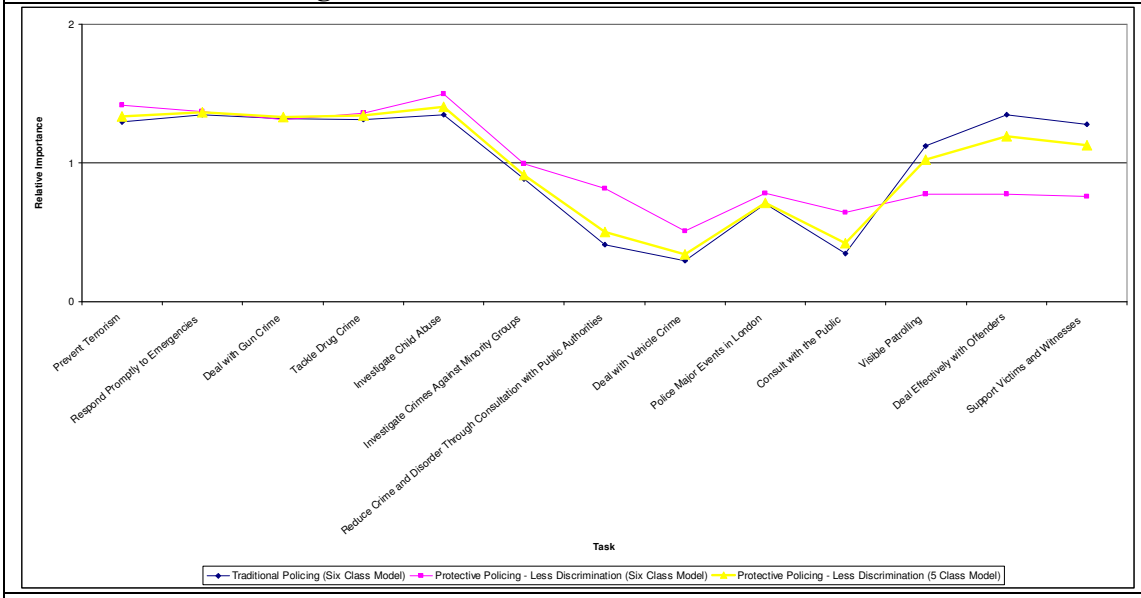
Figure 5.18: LCA Six Group Representation of Preferences for City-wide Policing (Relative Importance)



Analysis conducted in MPlus 4.2 and involves only those cases which have answered at least 8 out of the 13 questions (n=7112).

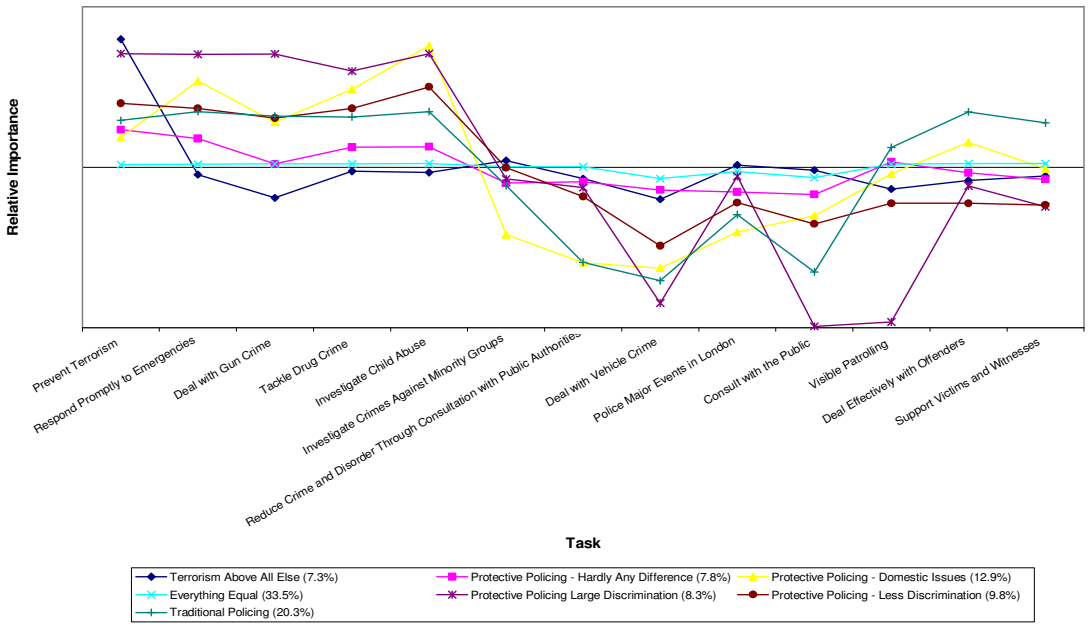
Overall, it is therefore unclear why the preferences of the additional class in the seven group model could not be accommodated within the classes identified in the earlier six group solution. The finding that the seven group solution does not greatly improve understanding of patterns within the dataset is supported by the LMR test result in Table 5.11.

Figure 5.19: Comparison of Two Classes in Six Class LCA Solution Derived from the "Protective Policing – Less Discrimination" Class in the Five Class Model



Analysis conducted in MPlus 4.2 and involves only those cases which have answered at least 8 out of the 13 questions (n=7112).

Figure 5.20: LCA Seven Group Representation of Preferences for City-wide Policing (Relative Importance)



Analysis conducted in MPlus 4.2 and involves only those cases which have answered at least 8 out of the 13 questions (n=7112).

Table 5.12: Cross-tabulation of Membership in the Five Group and Six Group LCA Solutions Concerning the Relative Importance Attached to Different City-wide Policing Functions

	6 Group Solution					
5 Group Solution	Protective Policing – Less Discrimination	Protective Policing - Large Discrimination	Terrorism Above All Else	Traditional Policing	Everything Equal	Protective Policing – Domestic Issues
Protective Policing – Less Discrimination	97.4%	0.0%	0.2%	99.6%	0.3%	0.0%
Protective Policing – Domestic Issues	0.9%	0.0%	0.8%	0.0%	0.0%	99.2%
Protective Policing - Large Discrimination	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Terrorism Above All Else	1.7%	0.0%	99.0%	0.0%	0.0%	0.8%
Everything Equal	0.0%	0.0%	0.0%	0.4%	99.7%	0.0%

Cross-tabulation based on classifying each case in its most likely class in each model. As LCA models allow cases to be partial members of several classes this therefore represents an approximation of the exact relationship.

Table 5.13: Cross-tabulation of Membership in the Six Group and Seven Group LCA Solutions Concerning the Relative Importance Attached to Different City-wide Policing Functions

	7 Group Solution						
6 Group Solution	Protective Policing - Large Discrimination	Terrorism Above All Else	Everything Equal	Protective Policing – Hardly Any Difference	Protective Policing – Domestic Issues	Traditional Policing	Protective Policing – Less Discrimination
Protective Policing – Less Discrimination	0.0%	0.7%	0.0%	0.0%	0.3%	0.0%	99.1%
Protective Policing - Large Discrimination	100.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%
Terrorism Above All Else	0.0%	98.5%	0.2%	76.5%	5.8%	0.1%	0.8%
Traditional Policing	0.0%	0.0%	0.0%	0.2%	0.0%	99.9%	0.2%
Everything Equal	0.0%	0.0%	99.8%	0.0%	0.0%	0.0%	0.0%
Protective Policing – Domestic Issues	0.0%	0.7%	0.0%	22.9%	93.9%	0.0%	0.0%

Cross-tabulation based on classifying each case in its most likely class in each model. As LCA models allow cases to be partial members of several classes this therefore represents an approximation of the exact relationship.

5.3 The Relationship Between A Latent Class Analysis of the Relative Importance Respondents Attach to Different City-wide Policing Tasks and Existing Measures of Policing Preference

One final issue is how the LCA classification based on the relative importance respondents attach to different policing functions relates to those measures of preferences for policing considered in previous research. Figure 5.21 shows the six preference groups identified in Figure 5.18, but this time expressed in terms of the absolute importance respondents attach to the different policing functions. Several points are worthy of note. Not surprisingly, given the way the relative importance measures were constructed, the general shape of each of mix of preferences (e.g. the relative position of each function within each group) shown in Figure 5.18 and 5.21 are similar. Despite this, comparing the two graphs does suggest that the using the recoded data may cause some information to be lost. For instance, Figure 5.21 suggests that in absolute terms respondents associated with the "Protective Policing – Large Discrimination" class attach substantially less importance to the police "Consulting the Public" compared to "Dealing with Vehicle Crime" or "Visible Patrolling". This distinction is not apparent in Figure 5.18.

Figure 5.21 offers some support for the view that the groups identified when considering relative importance may link to the overall level of importance respondents attach to policing. For instance it shows that those respondents in the "Everything Equal" class are in this group because they generally attach a high overall level of importance (nearly 7 out of 7) to all the functions considered.

Figure 5.21: Absolute Importance Scores of Each Policing Function for Each Group of Respondents Identified in the Six Class LCA Model of Relative Importance

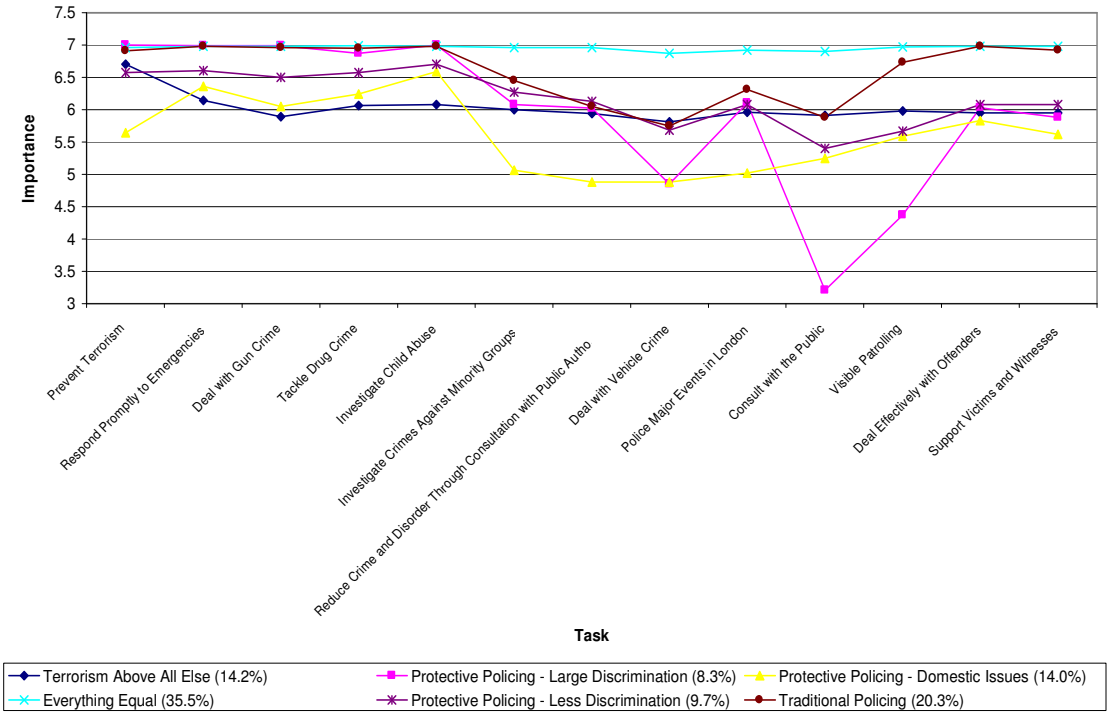


Table 5.14: Mean Absolute Importance Score for Each Policing Preference Group in the Six Class LCA Model Based on Relative Importance Attached to City-wide Policing Functions

Preference Group	Mean Importance
Protective Policing - Domestic Issues	5.66 (5.62-5.69)
Protective Policing - Large Discrimination	5.95 (5.94-5.96)
Terrorism Above All Else	6.02 (5.99-6.04)
Protective Policing - Less Discrimination	6.21 (6.17-6.24)
Traditional Policing	6.58 (6.57-6.59)
Everything Equal	6.95 (6.94-6.96)

Classification of respondents based on most likely class of membership. Average importance scores exclude missing data. 95% confidence intervals are given in brackets.

Table 5.14 presents the mean absolute importance score for each of the groups identified in the LCA model of relative importance. Rather unsurprisingly, given the distribution of

absolute importance scores in Figure 5.1, all the classes have a mean absolute score in excess of five and a half out of seven. In fitting with Figure 5.21, the highest average score relates to those within the "Everything Equal" class, but statistically significant differences can be identified between all the groups. This suggests that while this model focuses on the relative importance respondents attach to different policing functions, the classification developed may also allow some statements to be made about the aggregate level of importance individuals attach to policing.

5.4 Conclusions

This chapter has considered the possibility of grouping respondents in terms of how much importance they attach to the police undertaking different tasks when considering London as a whole. It is important to remember that classifications created using latent class analysis are only ever going to be approximations of an individual's actual preferences. As such, the optimal solution can be seen as one which captures the main differences between respondents without introducing groups which, while they may show some variation, are similar in substantive interpretation. To this end, factor analysis aimed at identifying which questions can be grouped together to represent attitudes towards underlying forms of policing is useful for interpreting the classifications developed. Additionally, the factor analysis models indicate that respondents may indeed hold similar attitudes about different policing activities which when taken together represent a wider approach to policing; for instance, dealing with drug and gun crime. This suggests that considering an individual's preference towards different policing functions separately is likely to provide an incomplete picture of a respondent's preferences (supporting Hypothesis 1 in Chapter 2).

The early models in this chapter considered raw data about how much importance respondents said they attached to a range of policing functions. While these models had the potential to offer an insight into how much importance respondents attached to

policing overall as well as the relative importance they attached to different functions, they suffered because it was not immediately clear how much of the variation in levels of importance was due to genuine differences between respondents compared to how much was a function of how they had read and answered the questions. These questions, which allowed respondents to see every task as "very important" if they wished, can also be seen as having limited relevance to policy decisions which must be taken in the context of limited resources. In view of this, the second half of the Chapter concentrated on looking at the relative importance respondents attached to each function. Although the various diagnostic measures did not provide a definitive conclusion about the optimal number of groups, they did provide a strong indication as to the range of models which might be appropriate. It can be argued that the six group solution identified in Figure 5.18 appears to capture all the major differences within the data, while subsequent models involving additional classes do not uncover any notably different preference patterns.

Finally, the model based on the relative importance individuals attached to different policing functions was linked back to the simpler measures of preferences for policing. This suggests that, while latent class based models created with the recoded data may miss some subtle differences (such as the absolute differences in importance of different community policing functions within the "Protective Policing – Large Discrimination" class), they can provide a good overview of individuals' attitudes towards different policing functions. It is this six group classification, based on the relative importance respondents attach to different policing tasks, which will be used to represent preferences towards city-wide policing for the remainder of this thesis.

APPENDIX 5.1: ADDITIONAL TABLES

Table 5A.1: Mean Importance and Descriptive Statistics of Individual Functions

Factor	Mean	Standard Error	Skewness	Kurtosis	Median	% Missing or Don't Know
Investigate Child Abuse	6.78	0.05	-3.72	13.12	7	1.23
Respond Promptly to Emergencies	6.75	0.05	-2.90	15.92	7	0.58
Tackle Drug Crime	6.70	0.05	-3.25	22.61	7	0.70
Prevent Terrorism	6.68	0.08	-3.54	16.13	7	1.75
Deal with Gun Crime	6.65	0.06	-2.90	13.47	7	1.25
Deal Effectively with Offenders	6.53	0.06	-2.04	8.79	7	0.83
Support Victims and Witnesses	6.47	0.06	-1.85	7.22	7	1.04
Investigate Crimes against Minorities	6.34	0.06	-1.77	6.87	7	3.83
Visible Patrolling	6.27	0.10	-1.38	4.22	7	0.59
Police Major Events in London	6.25	0.07	-1.74	6.79	7	2.13
Reduce Crime and Disorder Through Consultation with Public Authorities	6.21	0.06	-1.37	5.28	6	6.14
Deal with Vehicle Crime	5.92	0.08	-0.86	3.36	6	1.41
Consult with the Public	5.88	0.11	-1.16	3.53	6	1.67
Average	**6.42**		**-2.19**	**9.79**	**7**	**1.78**
Pearson r with Missing Data	**-0.33**		**0.33**	**-0.35**	**n/a**	**n/a**

All correlations significant at 0.01 level.

Table 5A.2: Mean Relative Importance Attached to Individual Functions

Task	Mean	Std. Error
Prevent Terrorism	1.22	0.05
Investigate Child Abuse	1.21	0.03
Respond to Emergencies Promptly	1.18	0.03
Tackle Drug Dealing and Drug Use	1.15	0.03
Deal with Gun Crime	1.12	0.03
Deal Effectively with Offenders	0.99	0.01
Support Victims and Witnesses	0.95	0.01
Investigate Crimes Against Minority Groups	0.88	0.01
Provide a Visible Patrolling Presence	0.85	0.03
Police Major Events in London	0.83	0.02
Reduce Crime and Disorder Through Consultation with Public Authorities	0.76	0.02
Consult with the Public	0.66	0.03
Deal with Vehicle Crime	0.61	0.03

CHAPTER 6: DEVELOPING A MEASURE OF THE PUBLIC'S PREFERENCES FOR POLICING – LOCAL ISSUES

This thesis focuses on whether an individual's preferences for policing are shaped not only by their personal characteristics but also by the nature of their local area. In contrast to Chapter Five, which considered policing across London as a whole, this chapter investigates whether it is possible to identify groups of respondents who identify similar priorities for policing in their local area.

As outlined in Chapter Three, respondents were asked to consider twelve different policing tasks (listed in Table 6.1) and indicate which, if any, the police should spend more time on in order to improve the respondent's local area. In contrast to the data considered in Chapter Five, missing data are not an issue with the responses concerning local policing (three respondents have missing data for all the tasks considered, all other respondents provided a valid answer for every task). As the questions considered in this chapter require respondents to answer "Yes" or "No" with regards to each policing task, rather than indicate "importance" on an ordinal scale, it is not possible to calculate the relative importance respondents attach to different tasks (as was done in Chapter 5). Instead, the analysis in this chapter will focus on the combinations of local policing tasks which respondents believe will improve their local area.

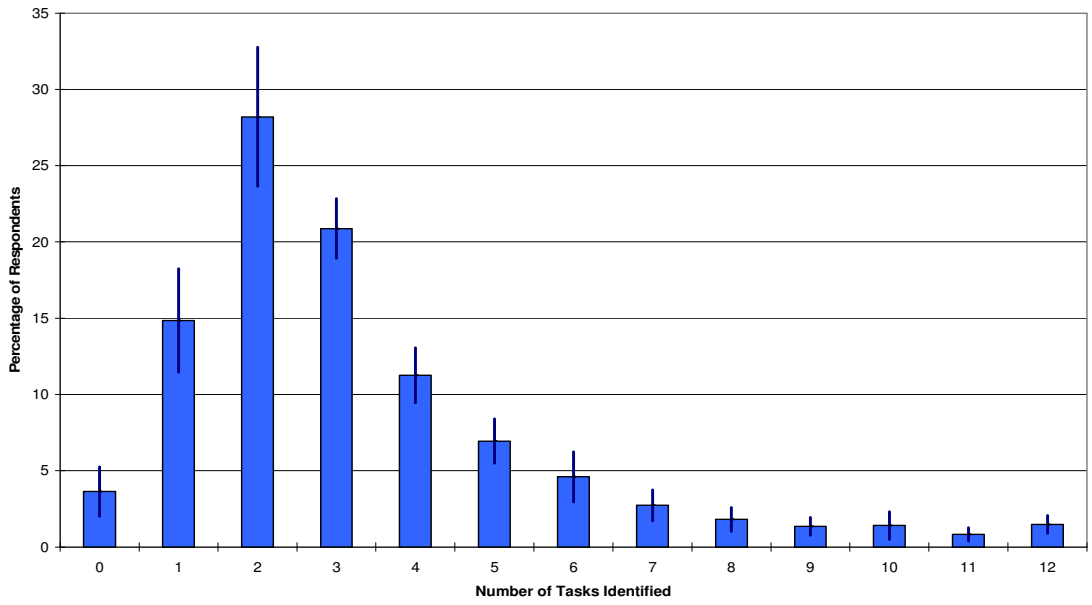
6.1 Analysis of Raw Responses About Local Policing

6.1.1 Replication of Existing Dependent Variables – Number of Tasks Identified

Figure 6.1 shows the percentage of respondents who identified a particular number of tasks as needing attention in order to improve their local area. When considering local issues, very few respondents (3.6%) indicate it is necessary for the police to undertake all twelve tasks in order to improve their local area. Indeed, over 40 percent of respondents identify only one or two tasks which they would like to see the police spend more time

on. This pattern marks an interesting contrast from the analysis presented in Chapter Five, where many respondents saw all types of policing as highly important. At first glance, this might suggest that respondents are more discriminating when considering local policing issues. However, as discussed in Chapter Three, there are substantial differences between the questions used to gather information about preferences for city-wide and local policing. These differences concern both the structure of the questions and the tasks respondents are asked to consider. It is therefore possible that the different results are, at least to some extent, attributable to differences between the two sets of questions. Therefore, any detailed discussion about possible relationships between preferences for local and city-wide policing will be delayed until the end of this chapter when membership of "preference mixes" identified in this chapter will be compared to those developed in Chapter Five. As these groupings are intended to represent respondents' attitudes towards underlying aspects of policing, it is to be hoped that any comparisons will be more robust than those which rely on answers to individual questions.

Figure 6.1: Number of Tasks Respondents Would Like to See the Police Undertake to Improve Their Local Area

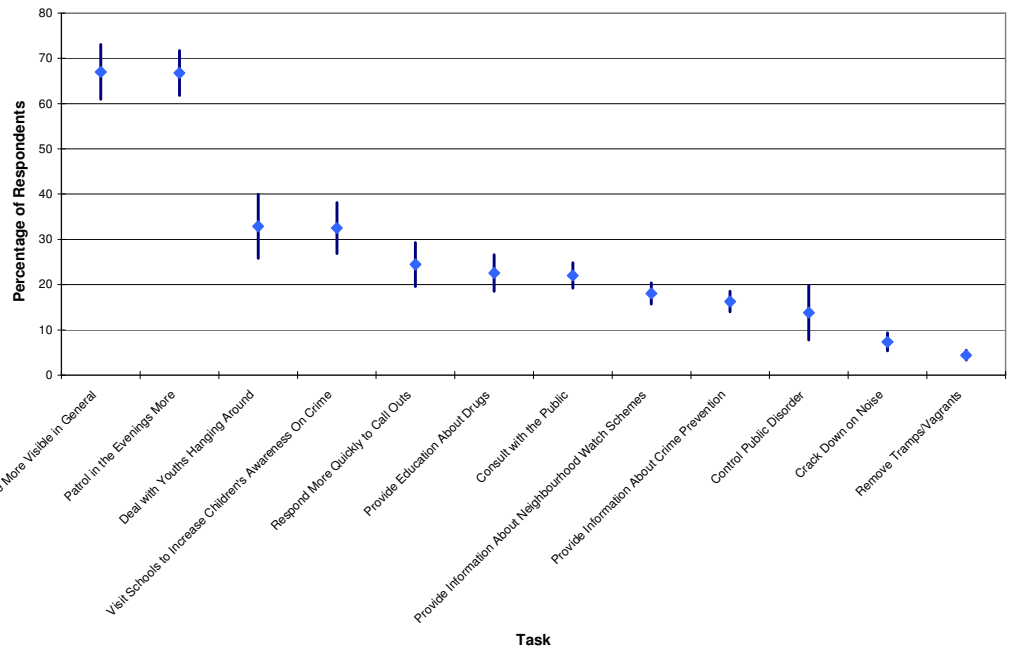


Confidence intervals based on robust standard errors to account for clustered sample design. n=7165.

6.1.2 *Replication of Existing Dependent Variables – Separate Responses for Each Policing Function*

Figure 6.2 shows the percentage of respondents who indicated that the police undertaking a particular task would improve their local area. Strikingly, the two tasks relating to increased police visibility are selected by around twice as many respondents as the next most requested function (a finding which reflects much of the existing research reviewed in Chapter 2). This finding marks a further difference between preferences for local and city-wide policing (where visible patrolling appeared to rank relatively lowly). However, once again it is not possible to establish whether this finding reflects a genuine difference in how visible patrolling is perceived depending on context respondents are asked to consider, or is a function of differences in the questions employed.

Figure 6.2: Percentage of Respondents Who Believe the Police Undertaking a Particular Task will Improve Their Local Area



Confidence intervals based on robust standard errors to account for clustered sample design. n=7165.

Table 6.1 provides polyserial correlations for all twelve policing tasks which respondents were asked to consider. The order of these tasks, within Table 6.1, reflects one way in which specific functions could be grouped together to represent more general types of policing (items one and two, education, items three to five, communication with the public, items six and seven, police patrolling, and items eight to twelve, dealing with possible threats to the public)[23]. Given that there was no limit to the number of tasks a respondent was allowed select it is not surprising that all apart from one of the correlations in Table 6.1 are positive, a finding which mirrors Table 5.3. It is not clear why there should be a negative correlation between a respondent wishing to see the police consult with the public and undertake more visible patrolling.

As in Chapter Five, those correlations greater than the mean correlation (0.360) are shown in bold. While Table 6.1 shows correlations with a mixture of strengths, it does provide some support for the view that a desire for particular tasks may reflect support for an underlying form of policing. For instance, the strongest correlation in Table 6.1 is 0.702 between the two tasks that refer to education, while the only substantial correlation involving either of the questions about police patrolling is with each other (0.528).

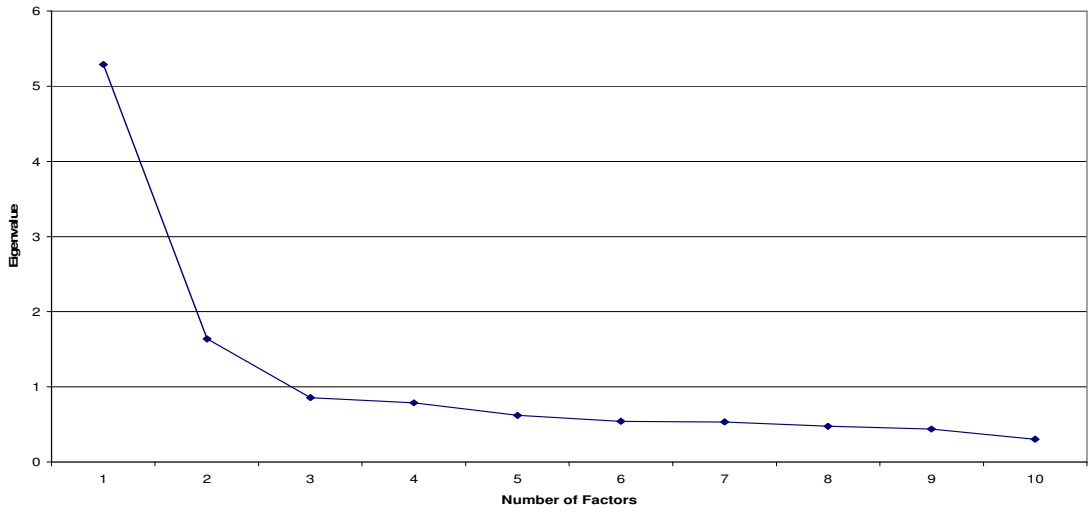
[23] The ordering of tasks in Table 6.1 reflects the researcher's interpretation of what each task may represent. This is in contrast to the results presented later in this chapter where grouping of variables are identified via statistical analysis.

Table 6.1: Pairwise Polyserial Correlations of Whether or Not the Police Undertaking a Particular Task Will Improve a Respondent's Local Area												
		1	2	3	4	5	6	7	8	9	10	11	12
1	**Visit Schools To Increase Children's Awareness**	1.000											
2	**Provide Education About Drugs**	**0.702**	1.000										
3	**Consult With The Public**	**0.402**	**0.435**	1.000									
4	**Provide Information About Crime Prevention**	**0.430**	**0.487**	**0.496**	1.000								
5	**Provide Info About Neighbourhood Watch Schemes**	**0.372**	0.353	**0.480**	**0.490**	1.000							
6	**Patrol In The Evenings More**	0.209	0.200	0.082	0.071	0.007	1.000						
7	**Police To Be More Visible In General**	0.206	0.137	-0.067	0.048	0.003	**0.528**	1.000					
8	**Respond More Quickly To Call Outs**	**0.422**	**0.404**	**0.395**	0.333	0.317	0.319	0.223	1.000				
9	**Control Public Disorder**	**0.555**	**0.565**	**0.445**	**0.442**	0.355	0.333	0.351	**0.515**	1.000			
10	**Deal With Youths Hanging Around**	0.349	**0.371**	0.250	0.267	0.248	0.222	0.173	**0.433**	**0.592**	1.000		
11	**Remove Tramps/Vagrants**	**0.454**	**0.485**	**0.434**	**0.456**	**0.445**	0.213	0.138	**0.462**	**0.491**	**0.413**	1.000	
12	**Crack Down On Noise**	**0.445**	**0.497**	**0.515**	**0.516**	**0.437**	0.270	0.218	**0.551**	**0.681**	**0.545**	**0.674**	1.000
Correlations shown are based on Polyserial correlations calculated in Stata 9 to take account of binary nature of the variables under consideration. All correlations are significant at 0.01 (although these calculations are not based on robust standard errors to account for clustering of cases). n=7165. Negative correlations shown in red. Correlation greater than the mean value of 0.360 shown in bold.													

6.1.3 Identifying Underlying Approaches or Groups – Factor Analysis

Building on the correlations in Table 6.1, Figure 6.3 shows the scree-plot associated with different EFA models of preferences for local policing. The scree-plot exhibits a clear flattening out around the three factor model, suggesting that this could provide an acceptable overview of the relationships amongst preferences for different local policing tasks.

Figure 6.3: Eigenvalues for EFA of Whether or Not the Police Undertaking a Particular Task Will Improve a Respondent's Local Area



Exploratory factor analysis conducted using MPlus 4.2 to account for binary nature of variables. n=7165.

In view of Figure 6.3, Tables 6.2-6.5 presents EFA solutions containing between two and five factors. In fitting with the finding that the two questions concerning police patrolling were the most likely to be endorsed by respondents (Figure 6.2) and that answers to these two questions appear strongly related (Table 6.1), it is not surprising that the two factor solution (Table 6.2) suggests that answers to these questions load strongly onto a single factor.

The three factor model (Table 6.3) further reflects the correlations in Table 6.1 by adding a factor reflecting a desire to see the police play a role in the education of young people. While the eigenvalues in Figure 6.3 suggest that a three factor solution could be appropriate for identifying groups of tasks which reflect the public's preferences for local policing, the diverse nature of tasks loading on to the first factor in Table 6.3 suggests that more factors are required to develop a full, justifiable, set of groupings.

Table 6.2: Promax Rotation Factor Loadings for Two Factor Solution (Local Policing Priorities)

Task	All Other Issues	Visible Policing
Crack Down on Noise	**0.750**	0.177
Consult with the Public	**0.727**	-0.201
Provide Information About Crime Prevention	**0.713**	-0.146
Remove Tramps/Vagrants	**0.691**	0.070
Provide Education About Drugs	**0.683**	0.078
Provide Information About Neighbourhood Watch Schemes	**0.662**	-0.205
Control Public Disorder	**0.646**	0.358
Visit Schools to Increase Children's Awareness On Crime	**0.633**	0.128
Respond More Quickly to Call Outs	**0.532**	0.255
Deal with Youths Hanging Around	**0.468**	0.251
Police to be More Visible in General	-0.067	**0.724**
Patrol in the Evenings More	0.027	**0.666**

Exploratory factor analysis conducted using MPlus 4.2 to account for binary nature of variables. n=7165. Bold figures show each function's highest factor loading.

Correlation = 0.288 (p<0.01)

Table 6.3: Promax Rotation Factor Loadings for Three Factor Solution (Local Policing Priorities)

Task	All Other Issues	Visible Policing	Education
Crack Down on Noise	**0.968**	0.157	-0.184
Remove Tramps/Vagrants	**0.687**	0.050	0.037
Consult with the Public	**0.604**	-0.212	0.136
Provide Information About Neighbourhood Watch Schemes	**0.555**	-0.214	0.115
Control Public Disorder	**0.544**	0.331	0.183
Respond More Quickly to Call Outs	**0.542**	0.235	0.038
Deal with Youths Hanging Around	**0.536**	0.234	-0.031
Provide Information About Crime Prevention	**0.516**	-0.157	0.230
Police to be More Visible in General	-0.052	**0.709**	0.073
Patrol in the Evenings More	0.077	**0.644**	0.029
Visit Schools to Increase Children's Awareness On Crime	-0.021	0.113	**0.843**
Provide Education About Drugs	0.117	0.054	**0.723**

Exploratory factor analysis conducted using MPlus 4.2 to account for binary nature of variables. n=7165. Bold figures show each function's highest factor loading.

Correlations Between Factors (p<0.01)

	All Other Issues	Visible Policing	Education
All Other Issues	1.000		
Visible Policing	0.203	1.000	
Education	0.688	0.164	1.000

The four factor solution (Table 6.4) goes some way to addressing the concern that the "All Other Issues" factor in Table 6.3 does not represent a single tightly defined group of policing tasks by separating these tasks across two separate factors. The first of these factors consists of policing tasks which might help improve a local area but are not likely to be functions the public associates with needing in an emergency ("Provide Information

About Neighbourhood Watch Schemes", "Consult with the Public", "Provide Information About Crime Prevention", "Crack Down on Noise" and "Remove Tramps/Vagrants"), while the second factor covers issues that might need a more rapid police response, or may be perceived as threatening by the public ("Deal with Youths Hanging Around", "Control Public Disorder", and "Respond More Quickly to Call Outs").

Table 6.5 presents the five factor EFA solution. While the "Visible Policing" and "Education" factors remain intact, the remaining three factors could be seen as less substantively robust than those identified in the four factor solution. In particular, the final factor, "Problem Issues" seems to be made up of a mix of different policing functions with no real underlying connections. Similarly, the loading of "Control Public Disorder" onto a factor separate from the other functions related to perceived threats to safety could be seen as introducing unnecessary separation to a substantively relevant grouping. The five factor solution does, however, provide some evidence that the three functions related to communicating with the public could form a unique grouping and so, when interpreting the subsequent latent class results, it might be worth considering these factors separate from "Crack Down on Noise" and "Remove Tramps/Vagrants" (the other two "non-threatening issues" linked together in the four factor solution). All apart from one of the correlations between factors in Tables 6.2-6.5 are positive and significant. This suggests that respondents who score highly on one dimension are also likely to score highly on other dimensions. Therefore, while the identification of interpretable factors, which appear to reflect underlying dimensions of policing, suggests an aggregate measure of desired policing may be simplistic, the correlations between factors provide some evidence to support assertion the of Salmi et al (2005) that a single continuum may be sufficient to at least gain an overview of demand for local policing.

Table 6.4: Promax Rotation Factor Loadings for Four Factor Solution (Local Policing Priorities)

Task	Non-Threatening Issues	Visible Policing	Education	Threatening Events
Provide Information About Neighbourhood Watch Schemes	**0.703**	-0.038	0.003	-0.059
Consult with the Public	**0.664**	-0.096	0.058	0.034
Provide Information About Crime Prevention	**0.662**	0.001	0.130	-0.066
Crack Down on Noise	**0.545**	0.054	-0.149	0.536
Remove Tramps/Vagrants	**0.512**	0.038	0.012	0.277
Police to be More Visible in General	-0.040	**0.878**	0.004	-0.087
Patrol in the Evenings More	-0.007	**0.603**	-0.001	0.092
Provide Education About Drugs	0.130	-0.038	**0.723**	0.075
Visit Schools to Increase Children's Awareness On Crime	0.100	0.049	**0.761**	-0.001
Deal with Youths Hanging Around	-0.069	-0.143	0.044	**0.826**
Control Public Disorder	0.171	0.120	0.214	**0.513**
Respond More Quickly to Call Outs	0.285	0.131	0.039	**0.359**

Exploratory factor analysis conducted using MPlus 4.2 to account for binary nature of variables. n=7165. Bold figures show each function's highest factor loading.

Correlations Between Factors (p<0.01)

	Non-Threatening Issues	Visible Policing	Education	Threatening Events
Non-Threatening Issues	1.000			
Visible Policing	0.139	1.000		
Education	0.598	0.311	1.000	
Threatening Events	0.544	0.509	0.528	1.000

Table 6.5: Promax Rotation Factor Loadings for Five Factor Solution (Local Policing Priorities)

Task	Public Communication	Visible Policing	Education	Public Disorder	Problem Issues
Provide Information About Neighbourhood Watch Schemes	**0.688**	0.054	-0.030	0.002	0.057
Provide Information About Crime Prevention	**0.630**	0.068	0.113	0.041	0.032
Consult with the Public	**0.548**	-0.076	0.062	0.041	0.181
Police to be More Visible in General	0.046	**1.038**	-0.032	0.035	-0.076
Patrol in the Evenings More	-0.131	**0.392**	0.074	-0.033	0.293
Provide Education About Drugs	0.091	-0.061	**0.801**	0.008	0.023
Visit Schools to Increase Children's Awareness On Crime	0.105	0.035	**0.771**	0.019	-0.034
Control Public Disorder	0.095	0.070	0.086	**0.647**	0.430
Crack Down on Noise	0.354	-0.012	-0.125	0.038	**0.755**
Deal with Youths Hanging Around	-0.057	-0.115	0.029	0.189	**0.633**
Remove Tramps/Vagrants	0.347	-0.020	0.073	-0.132	**0.534**
Respond More Quickly to Call Outs	0.126	0.030	0.093	-0.017	**0.537**

Exploratory factor analysis conducted using MPlus 4.2 to account for binary nature of variables. n=7165. Bold figures show each function's highest factor loading.

Correlations Between Factors (p<0.01)

	Public Communication	Visible Policing	Education	Public Disorder	Problem Issues
Public Communication	1.000				
Visible Policing	-0.112	1.000			
Education	0.520	0.276	1.000		
Public Disorder	0.226	0.155	0.367	1.000	
Problem Issues	0.413	0.423	0.609	0.321	1.000

6.1.4 Identifying Underlying Approaches or Groups – Latent Class Analysis

When combined with substantive interpretation, the factor analysis results provide some evidence that the responses provided by individuals with regards to local policing do portray support for underlying approaches to policing, namely, communicating with the public, visible patrolling, dealing with threatening issues, educating children and dealing with less threatening, potentially anti-social issues. As in Chapter Five, the factor analysis results will be used to aid the interpretation of the LCA models developed in this section.

Table 6.6 shows the same model selection indicators as were considered in Tables 5.6 and 5.11. Once again, while different indicators appear to support the use of different numbers of classes, taken together they do give a good indication of the models that should be compared to decide which solution offers the most useful approximation of respondents' preferences for local policing.

The AIC curve continues to fall as more groups are introduced to the model, although it only decreases very slowly from four classes onwards (Figure 6.4). The same pattern is repeated by the ABIC. While an absolutist interpretation of the BIC statistic would indicate a model involving ten classes, a scree-plot interpretation fits with the AIC statistic showing a distinct flattening out from four classes onwards (the model on model improvement between four classes and ten classes is less than a third of one percentage point). Rather unsurprisingly, given the links between them, these conclusions are also supported by a scree-plot interpretation of the log-likelihood statistics shown in Figure 6.5.

Table 6.6: Group Selection and Entropy Statistics for LCA Models of Preferences for Local Policing

Groups	LogL	AIC	BIC	ABIC	Change in BIC	Entropy	LMR	BMFI
1	-42377.30	84778.60	84861.13	84822.99	n/a	n/a	n/a	90.15
2	-38542.53	77135.05	77306.99	77227.55	-8.90	0.925	0.00	38.64
3	-37932.92	76203.19	76203.19	76082.44	-1.43	0.833	0.00	30.30
4	-37384.78	74871.56	75222.31	75060.24	-1.29	0.689	0.00	12.12
5	-37217.71	74563.43	75003.59	74800.21	-0.29	0.711	0.00	7.95
6	-37090.17	74334.34	74863.91	74619.22	-0.19	0.725	0.00	5.30
7	-36996.18	74172.37	74791.35	74505.35	-0.10	0.689	**0.06**	1.89
8	-36918.21	74042.42	74750.81	74423.49	-0.05	0.702	0.12	2.27
9	-36843.22	73918.45	74716.24	74347.62	-0.05	0.717	0.22	0.76
10	-36782.86	74710.91	**74710.91**	74300.98	**-0.01**	0.712	1.00	0.76
11	-36741.35	73766.70	74743.31	74292.06	0.04	0.679	0.06	0.38
12	-36703.70	73717.39	74783.41	74290.85	0.05	0.7	0.97	0.00

Figure 6.4: AIC and BIC Statistics for LCA Solutions Concerning Preferences for Local Policing

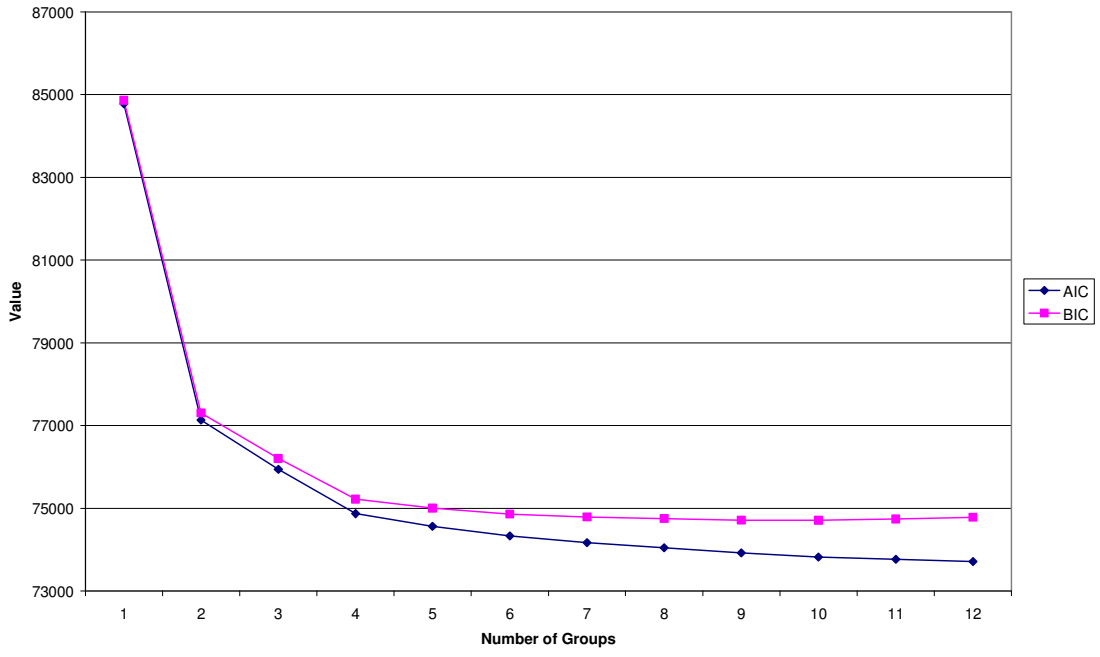
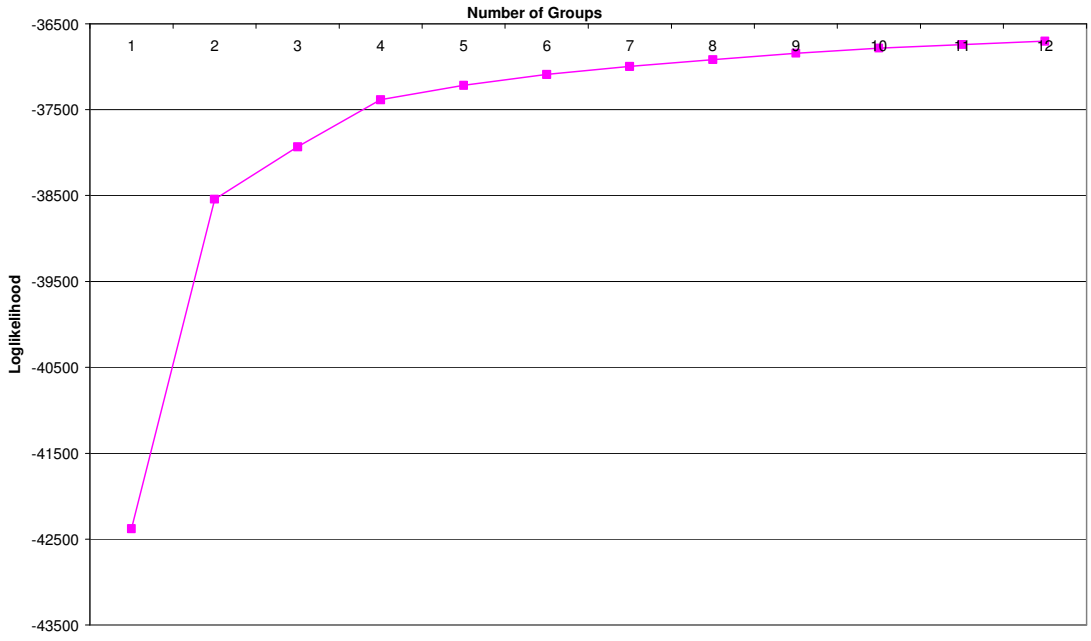


Figure 6.5: Log-likelihood Statistic for LCA Solutions Concerning Preferences for Local Policing



The seven class model is the first to provide a non-significant LMR result suggesting that a six class model may be most appropriate according to this indicator. However, it should be noted that this model only just fails to achieve significance (p=0.06) while the eight class model is clearly insignificant with a p-value of 0.12. Rather than taking a strict reading of the LMR results it is probably more constructive to suggest that this indicator supports either six or seven classes.

Finally, Figure 6.6 shows the percentage of bivariate residuals associated with each model which are significant at the 0.05 level. In fitting with the findings of Figures 6.4 and 6.5, this supports the view that introducing additional classes does lead to a substantial improvement in model fit up to, and including, the four class model. However, Figure 6.6 also suggests that the model fit continues to improve considerably

until around seven classes are included (the point at which the curve finally becomes relatively flat).

Taking all the indicators together suggests something of a split, with those diagnostics based on the log-likelihood suggesting that as few as four classes may be sufficient, while the LMR and bivariate residual results suggest a solution of around six or seven classes. In view of these conclusions, a range of different models (starting with four classes) will now be considered in terms of their substantive usefulness.

Figure 6.6: Percentage of Bivariate Residuals Significant at the 0.05 Level for Each LCA Solution of Preferences for Local Policing

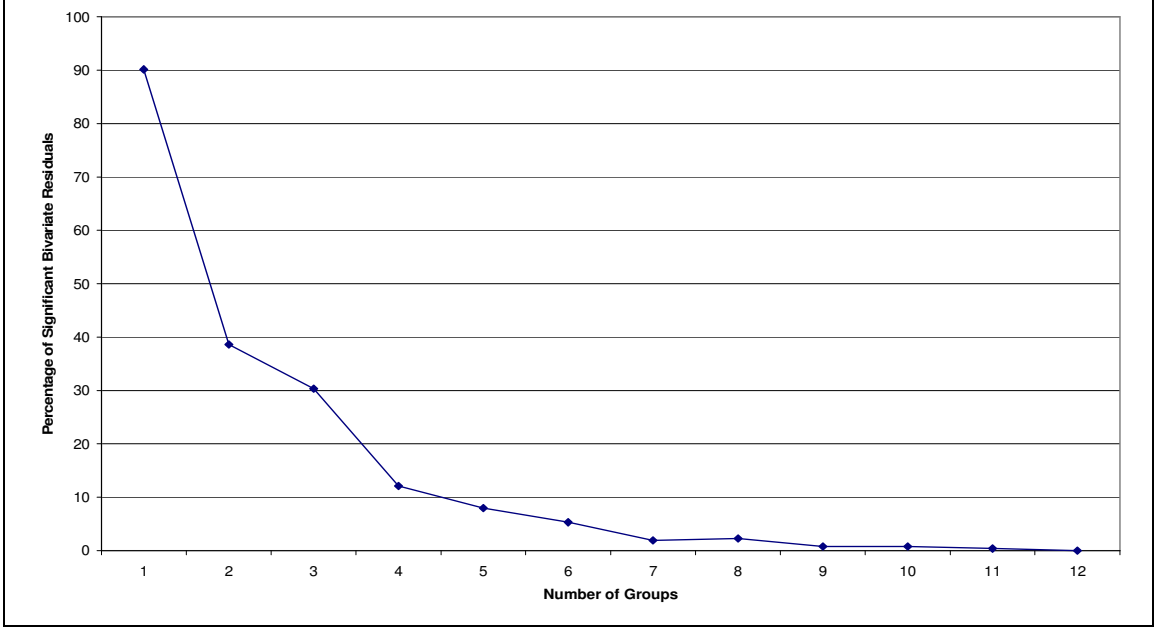
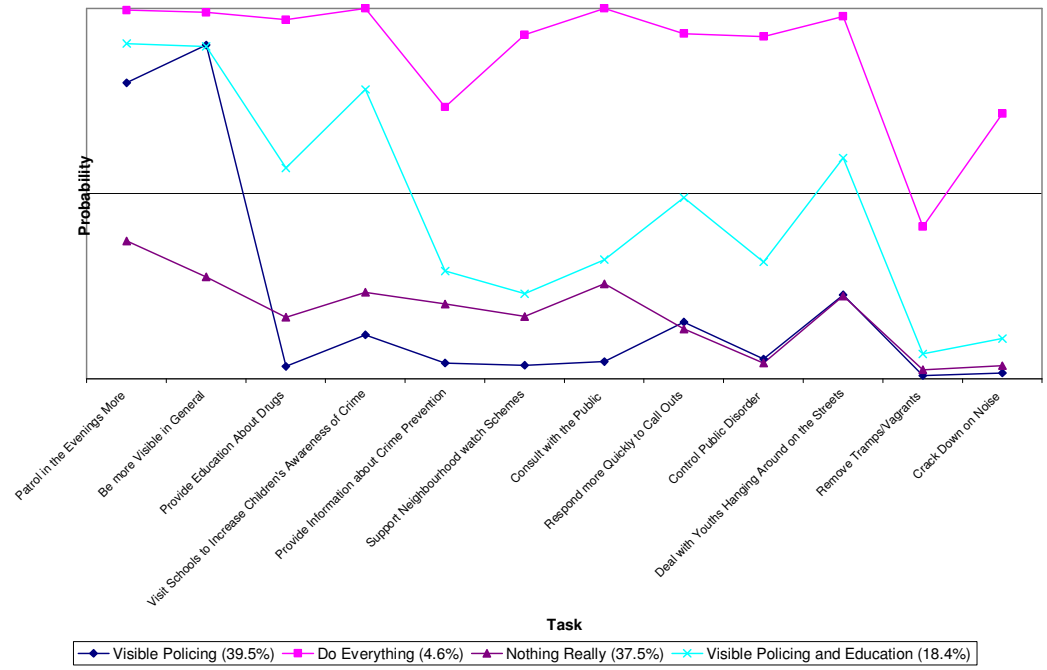


Figure 6.7 shows the different mixes of preferences identified by a four group LCA solution. As in the models in Chapter Five, it is possible to identify a high demand, "Do Everything" group (in this case representing just fewer than 5% of the total sample). However, even amongst these respondents, less than half say that their local area would be improved by the police spending more time removing tramps and vagrants, suggesting that this is a minor issue for nearly all respondents (a conclusion which fits with Figure

6.2). The single largest group of respondents identified in Figure 6.7 (39.5% identified as "Visible Policing") see most functions as relatively unimportant, but are highly likely to believe that their local area will be improved by more visible policing. A similar proportion of respondents (37.5%) appear in a class which suggests low attachment to any particular form of policing (identified as "Nothing Really"). This group seems to represent those individuals who identify just one or two particular functions and have no overriding pattern in terms of the types of policing they favour. This group perhaps shows a slight preference for "Public Consultation", "Visible Patrolling" and "Dealing with Youth Hanging Around on the Streets", although given the low probability of these respondents endorsing any single policing task it is probably wise not to read too much in to the relative position of different functions. The final group identified in the four class solution (representing 18.4% of respondents) once again believe their local area will be improved by the provision of more visible policing, but also appear to express a desire to see the police do more with young people either via education or addressing the issue of them congregating on the streets (this preference mix is identified as "Visible Policing and Education".

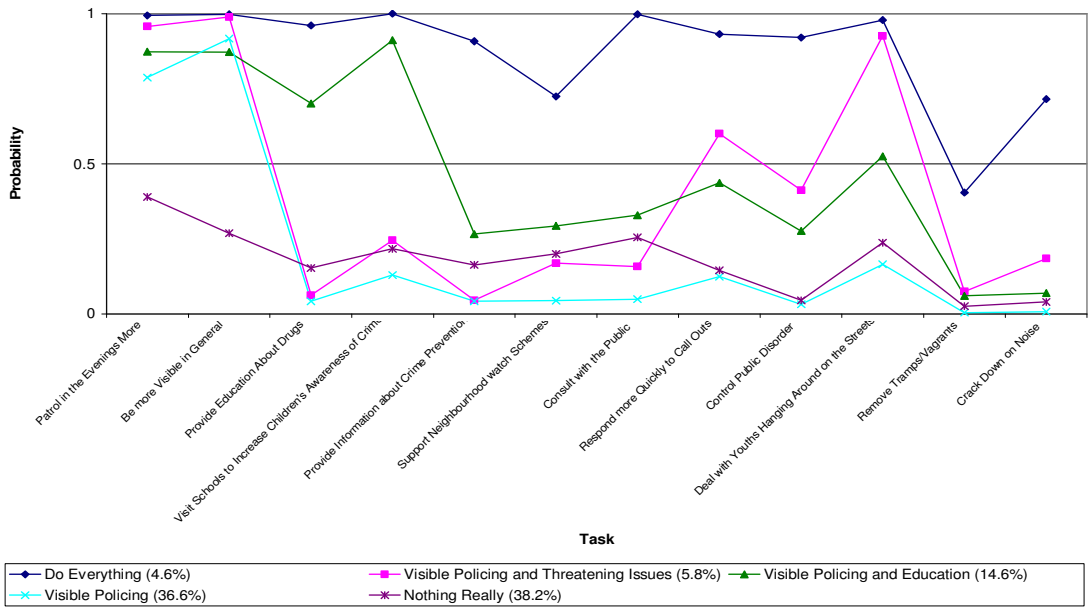
The five class LCA model (Figure 6.8) broadly maintains the groups identified in Figure 6.7. However, an additional group of respondents, who appear to hold very distinctive preferences for local policing, is identified. Those respondents whose preferences are summarised by the "Visible Policing and Threatening Issues" preference mix once again seem highly likely to believe their local area will be improved by the provision of more visible policing, but this is combined with a wish to see the police address issues which could be perceived as threatening to an individual's safety. For instance, they are concerned about young people in groups on the streets and how quickly the police respond to emergency calls.

Figure 6.7: LCA Four Group Representation of Preferences for Local Policing



Analysis conducted in MPlus 4.2 (n=7165).

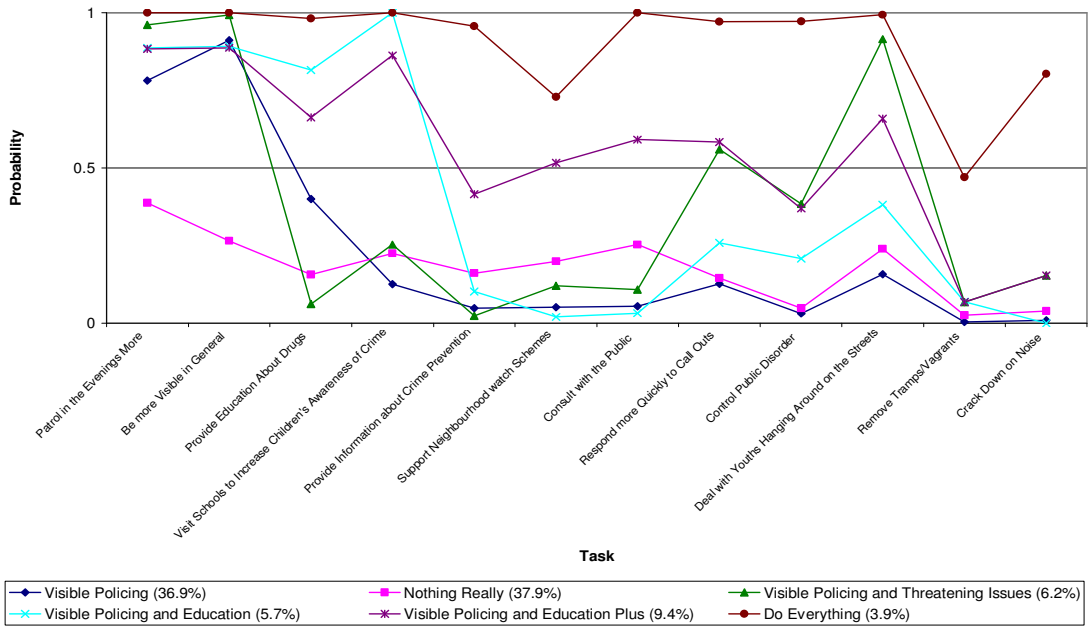
Figure 6.8: LCA Five Group Representation of Preferences for Local Policing



Analysis conducted in MPlus 4.2 (n=7165).

The patterns of preference identified in Figures 6.7 and 6.8 generally persist in the six class solution (Figure 6.9). For instance, less than one in twenty of the sample exhibit a strong likelihood of wanting the police to undertake nearly all the tasks considered ("Do Everything"). Similarly, in excess of 35 percent of the sample single out the importance of visible patrolling ("Visible Policing"), and a similar number of respondents appear to have few concrete preferences ("Nothing Really"). However, within the six class model, those respondents who favour the police combining visible policing with a role in the education of young people are split across two different groups. The first of these ("Visible Policing and Education") shows a strong preference for the police concentrating exclusively on these two roles. Respondents who are identified with this preference mix have a high probability of endorsing the "Patrol in the Evenings More", "Be More Visible in General", "Provide Education About Drugs" and "Visit Schools to Increase Children's Awareness of Crime" tasks, but a low probability of seeing any of the remaining functions as important. In contrast, respondents whose preferences are captured by the "Visible Policing and Education Plus" class show a preference for the four tasks identified above, but combine this with an increased likelihood of seeing other policing tasks as important, notably "Dealing with Youths Hanging Around on Streets" and "Respond More Quickly to Call Outs". The diagnostic tests in Table 6.6 provide strong support for the view that the six class model may be the most appropriate for summarising preferences towards local policing. It is the last model to provide an LMR result which is significant at the 0.05 level and its AIC and BIC statistics are nearly as low as the lowest achieved by any of the models considered.

Figure 6.9: LCA Six Group Representation of Preferences for Local Policing

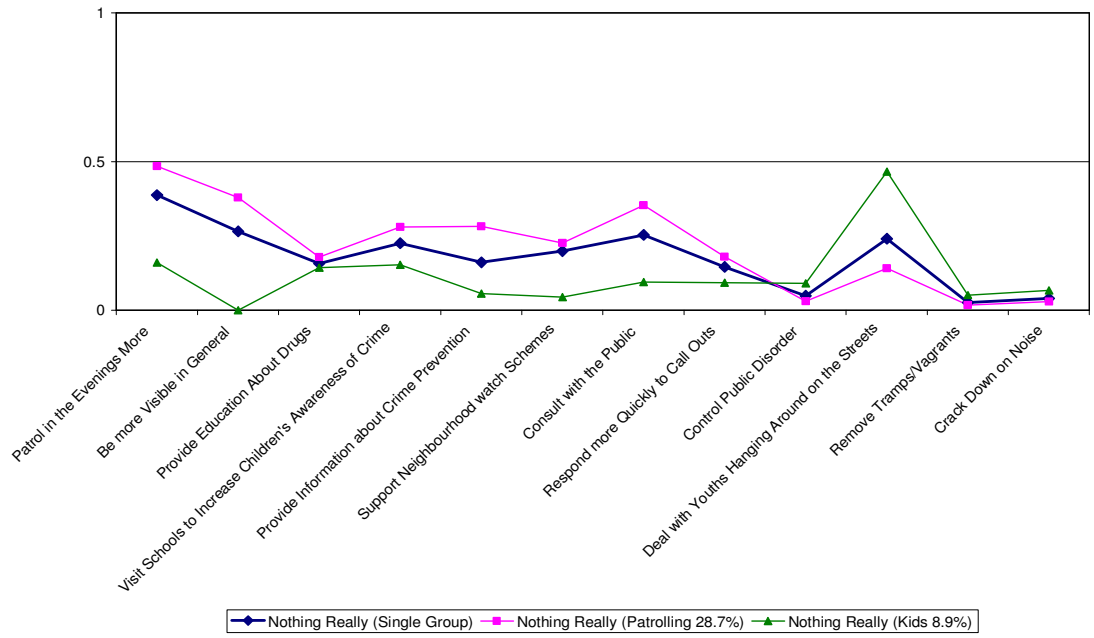


Analysis conducted in MPlus 4.2 (n=7165).

Introducing a seventh group to the model has the effect of splitting the "Nothing Really" group into two (representing 26.7% and 8.9% of the overall sample). Comparing these two groups to the original group identified in the six class model (Figure 6.10) shows that while they might vary slightly, particularly with regards to the importance they attach to visible patrolling and dealing with young people, they hold broadly similar preferences (low average importance for all tasks), which are well captured by the original single group. This suggests that, while introducing a seventh class to the model may reduce the percentage of significant bivariate residuals (the seven group model would appear to be the first point in Figure 6.6 at which the percentage of significant residuals could be argued to have become flat), it adds little to the substantive understanding of preferences towards local policing. The six class model (shown in Figure 6.9) would therefore appear to be the most parsimonious model, capturing all the main differences in respondents' preferences in a number of classes which remains relatively easy to follow. It is this six

group model which will be used to summarise preferences towards local policing for the remainder of this thesis.

Figure 6.10: Comparison of Similar Groups in the Six Group and Seven Group LCA Representations Preferences for Local Policing



Analysis conducted in MPlus 4.2 (n=7165).

6.2 The Relationship Between a Latent Class Model of Preferences for Local Policing and Existing Measures of Preferences for Policing

In contrast to the model developed in the second half of Chapter Five, which saw respondents' raw data recoded to show the relative importance they attached to each task, the model presented in Figure 6.9 is directly concerned with whether or not a respondent wishes to see the police involved in a particular activity. This means that the solution presented can be seen as giving a good insight as to the likelihood of an individual endorsing a particular task, and there is no need for an analysis similar to Figure 5.21.

Figure 6.9 also provides an indication as to how much local policing different respondents would like to see. The higher the line associated with a particular preference group appears, the more likely those respondents are to endorse more items and hence the more policing they can be seen as wishing to see in their local area. Table 6.7 presents the mean number of policing tasks endorsed by the respondents associated with each of the six preference mixes shown in Figure 6.9. Table 6.7 provides clear support for the view that a measure which considers both aggregate levels of policing and support for different policing tasks will provide the best insight in to a respondent's preferences for policing. On average, respondents in both the "Visible Policing Threatening Issues" and "Visible Policing and Education" classes have selected 4.81 of the 12 available tasks, yet Figure 6.9 suggests that these two groups wish to see the police concentrate on different activities.

Table 6.7: Mean Number of Tasks Indicated by Respondents in Each of the Six LCA Preference Groups Concerning Local Policing

Preference Group	Mean Number of Tasks Endorsed
Nothing Really	2.03 (1.99-2.08)
Visible Policing	2.37 (2.34-2.40)
Visible Policing and Threatening Issues	4.81 (4.72-4.90)
Visible Policing and Education	4.81 (4.71-4.91)
Visible Policing and Education Plus	6.72 (6.62-6.82)
Do Everything	10.92 (10.80-11.04)

Classification of respondents based on most likely class of membership. Average importance scores exclude missing data. 95% confidence intervals given in brackets. n=1765.

6.3 The Relationship between Preferences for Local and City-wide Policing

As outlined at the start of this chapter, differences in the nature of the questions used to collect information about preferences for local and city-wide policing mean it is difficult to compare attitudes towards individual policing tasks across contexts. One increasingly common use of latent variable models is to consider the relationship between two different, but related, behaviours or sets of attitudes (see Nagin, 2005, pp146-149, with reference to adolescent behaviour in a longitudinal setting). While the analysis presented so far has considered individuals' preferences towards policing across London and within their local community separately, it seems plausible that if these preferences reflect an individual's perceived threats, or underlying perception of the role of the police within society, a relationship will exist between them. Given the difficulties of comparing support for separate tasks between local and city-wide contexts, there is likely to be some merit in trying to compare more general preferences for policing (as identified by the LCA models in this and the previous chapter). It is to be hoped that because the LCA solutions identify underlying dimensions of preferences for policing these comparisons will be less susceptible to the difficulties associated with comparing individual questions.

Conducting a latent class analysis provides each case with a classification of the group it is most likely to be in, and a measure of its probability of appearing in each of the classes within the model. For instance, in the six class model concerning preferences towards local policing, each individual has six separate probability scores. The existence of any relationship between different concepts can therefore be investigated by identifying statistically significant relationships between the classifications provided for each concept.

Rather than simply using the output of the separate LCA models conducted so far, it has been argued that a more accurate reflection of any possible relationship between two classifications can be identified by conducting a dual-classification analysis. For this thesis, this involves conducting an LCA as before, but with the software creating

classifications for both local policing and city-wide policing simultaneously and taking account of an individual's membership with regard to one concept when considering their likely membership with regards to the second concept (Nagin, 2005, pp143-146). Attempting to run a dual classification model involving preferences towards both city-wide and local policing caused convergence problems within the software, most probably because of the small number of cases exhibiting some combinations of preferences. Due to these problems, subsequent analysis will be based on the output provided by the single classification models which were created over the previous two chapters. Overall, the results from the dual classification model were very similar to those presented below, with the exception of slight variations in the number of cases in the less common combinations of preferences (those with membership of around 0.1% or 0.2% in Table 6.8). This suggests that using data from the single classification models will not unduly influence the conclusions reached.

Table 6.8 presents a cross-tabulation based on each individual's most likely class of membership with regards to both city-wide and local policing.

Table 6.8: Cross-tabulation of Preferences for Local Policing and City-wide Policing (Overall Percentages)

Preference Grouping	Everything Equal	Terrorism Above All Else	Protective Policing – Large Discrimination	Protective Policing – Less Discrimination	Protective Policing – Domestic Issues	Traditional Policing
Nothing Really	10.6%	9.2%	1.1%	3.5%	7.3%	5.9%
Visible Policing	11.8%	4.5%	5.5%	3.8%	4.4%	7.6%
Visible Policing and Threatening Issues	2.4%	0.1%	0.1%	0.2%	0.4%	2.3%
Visible Policing and Education	2.1%	0.1%	1.5%	0.5%	0.2%	1.4%
Visible Policing and Education Plus	4.4%	0.4%	0.1%	0.4%	1.0%	3.1%
Do Everything	2.0%	0.1%	0.0%	0.1%	0.3%	1.5%

n=7112.

Table 6.8 suggests that many possible combinations of preferences for city-wide and local policing are uncommon (14 of the 36 possible combinations have a prevalence of

below 0.5% of the sample). The statistics provided in Table 6.9 indicate that the distribution of cases between the different combinations of classifications is not attributable to chance and is likely to reflect the fact that individual preferences about policing at both city-wide and local levels are related (chi-square p-value <0.001). At first glance, the Cramer's V statistic of 0.192 (p-value<0.001) appears relatively low suggesting that any relationship could be considered relatively weak. However, while Cramer's V can take any value between zero and one it is rare to find high valued statistics within large samples (DeVaus, 2002, p258), meaning that even the value of 0.192 could indicate an interesting relationship, especially if the distribution of cases appears to be theoretically justifiable.

Table 6.9: Indications of Association Between Preferences for Local Policing and City-wide Policing

Measure of Association	Value	Significance
Chi-square	1318.614 (25 df)	<0.001
Cramer's V	0.192	<0.001

n=7112.

Although Tables 6.8 and 6.9 provide an indication that preferences towards city-wide and local policing are related, the use of overall percentages make it difficult to identify any particular relationship concerning group membership. Tables 6.10 and 6.11 therefore present the same data as Table 6.8 but with percentages referring to those within a given grouping rather than the overall sample. Table 6.10 provides the percentage of respondents from each city-wide preference mix who appear in each of the different preference mixes concerning local policing.

The pattern of cases revealed in Table 6.10 offers some support for the view that the relationship between policing preference at city-wide and local levels does reflect some underlying thinking about how the police should operate. This is best illustrated by the breakdown of those respondents who, when considering London as a whole, believe that preventing terrorism should be the police's main priority (an essentially macro level issue). Within this group, very nearly 65 percent of respondents express no particular wish to see the police undertake any particular activities within their local area

(membership of the "Nothing Really" group). In contrast, only 0.7 percent of these respondents appear in the "Do Everything" preference mix for local policing. This relationship reflects how support for the police addressing a diffuse threat, such as terrorism, is likely to be greater amongst those who see less need for immediate policing in their day-to-day lives.

Table 6.10: Cross-tabulation of Preferences for Local Policing and City-wide Policing (City-wide Policing Percentages)

Preference Grouping	Everything Equal	Terrorism Above All Else	Protective Policing – Large Discrimination	Protective Policing – Less Discrimination	Protective Policing – Domestic Issues	Traditional Policing
Nothing Really	31.9%	64.5%	12.6%	40.9%	53.7%	27.0%
Visible Policing	35.3%	31.3%	66.8%	44.5%	32.3%	35.2%
Visible Policing and Threatening Issues	7.3%	0.5%	0.7%	2.8%	2.9%	10.4%
Visible Policing and Education	6.3%	0.6%	18.5%	5.4%	1.6%	6.5%
Visible Policing and Education Plus	13.2%	2.5%	1.3%	5.0%	7.1%	14.1%
Do Everything	6.0%	0.7%	0.2%	1.5%	2.5%	6.9%
Total	100%	100%	100%	100%	100%	100%

n=7112. Columns represent city-wide preferences. Rows represent local preferences.

Table 6.10 suggests that while they may hold similar attitudes towards which tasks the police should prioritise in a city-wide context, members of the "Protective Policing – Large Discrimination" and "Protective Policing – Less Discrimination" preference mixes express different priorities for local policing. Notably, those respondents who were less discriminatory in the level of importance they attached to protective policing in a city-wide context are much more likely to appear in the "Nothing Really" group when considering local policing (40.9% rather than 12.1%). This offers some support for the view that these two preferences mix may indeed represent individuals with different underlying attitudes towards policing.

Finally, the "Everything Equal" and "Traditional Policing" groups, which, on average, represented those respondents with the highest overall importance scores for city-wide policing (Table 5.14) are both associated with higher than average probability of membership in the "Do Everything" class for local policing. This suggests that these respondents may attach a high importance to policing in both city-wide and local contexts.

Table 6.11: Cross-tabulation of Preferences for Local Policing and City-wide Policing (Local Policing Percentages)

Preference Grouping	Nothing Really	Visible Policing	Visible Policing and Threatening Issues	Visible Policing and Education	Visible Policing and Education Plus	Do Everything
Everything Equal	28.3%	31.3%	44.6%	36.1%	47.3%	49.3%
Terrorism Above All Else	24.5%	11.9%	1.3%	1.4%	3.8%	2.4%
Protective Policing – Large Discrimination	2.8%	14.7%	1.0%	26.4%	1.2%	0.3%
Protective Policing – Less Discrimination	9.4%	10.2%	4.4%	7.9%	4.7%	3.1%
Protective Policing – Domestic Issues	19.5%	11.7%	7.2%	3.8%	10.4%	8.2%
Traditional Policing	15.6%	20.3%	41.5%	24.3%	32.7%	36.6%
Total	100%	100%	100%	100%	100%	100%

n=7112. Columns represent local preferences. Rows represent city-wide preferences.

Table 6.11 reports the same results as Tables 6.9 and 6.10, but this time presents the distribution of cases as a percentage of each local policing preference group. Unsurprisingly, the patterns in Table 6.11 largely reinforce the findings of Table 6.10 (for instance over 85 percent of those respondents in the "Do Everything" group with regards to local policing are to be found in either the "Everything Equal" or "Traditional Policing" groups when considering city-wide issues). However, Table 6.11 further helps to highlight that groups which may have appeared similar in the initial single concept analysis may hold different underlying attitudes. For instance, comparing those classes which involve support for visible policing at a local level, it can be seen that they are distributed very differently across the classes based on preferences for city-wide policing.

As well as ascribing each individual to their most likely group, LCA analysis provides a probability for each respondent being a member of each class identified within a model. Correlating these probabilities provides further evidence of the relationships which exist between preferences for local and city-wide policing. All but four of the correlations presented in Table 6.12 are significant at the 0.05 level. Taken alongside the chi-square and Cramer's V statistics (Table 6.9) this does suggest that individuals' preferences towards policing at both the city-wide and local level are related.

Table 6.12: Pearson's r Correlation Between Group Membership Probabilities for City-wide and Local Policing

Preference Grouping	Everything Equal	Terrorism Above All Else	Protective Policing – Large Discrimination	Protective Policing – Less Discrimination	Protective Policing – Domestic Issues	Traditional Policing
Nothing Really	-0.101**	0.238**	-0.163**	0.029*	0.180**	-0.138**
Visible Policing	-0.065**	0.002	0.193**	0.045**	-0.054**	-0.053**
Visible Policing and Threatening Issues	0.097**	-0.126**	-0.082**	-0.042**	-0.075**	0.149**
Visible Policing and Education	0.013	-0.122**	0.202**	-0.004	-0.088**	0.017
Visible Policing and Education Plus	0.125**	-0.137**	-0.084**	-0.058**	-0.054**	0.118**
Do Everything	0.072**	-0.078**	-0.063**	-0.030*	-0.036**	0.080**

n=7112. ** indicates significance at the 0.01 level. * indicates significance at the 0.05 level. Columns represent city-wide preferences. Rows represent local preferences.

However, while often significant, the correlations in Table 6.12 are generally low (only the correlation between membership of the "Terrorism Above All Else" and "Nothing Really" groups and the coefficient relating to "Protective Policing – Large Discrimination" and "Visible Policing and Education" have absolute values above 0.2), which indicates fairly weak co-variation between membership of the two models. While this analysis concentrates on support for underlying approaches to policing (rather than support for individual policing functions) it remains possible that any relationships between preferences for local and city-wide policing are still obscured, at least to some extent, by the noise associated with the data; notably due to the different question structures employed.

Despite their low values, the correlations reported in Table 6.12 support the pattern presented in the cross-tabulations. For instance, a negative relationship exists between membership of the "Nothing Really" group when considering local policing (a preference group which suggests little wish to see more policing) and the "Everything Equal" and "Traditional Policing" preference mixes for city-wide policing (groups associated with attaching a high level of importance to policing in general). Similarly, membership of the "Terrorism Above All Else" preference mix (which appears to encompass respondents who are less concerned with the police addressing everyday crimes) is positively associated with membership of the "Nothing Really" group concerning local policing. Taken as a whole, the analysis presented in Tables 6.8-6.12 does suggest that an individual's preferences for policing at both local and city-wide levels may be related. Furthermore, for several of these relationships it is possible to provide a plausible explanation of why a respondent who favours one mix of policing at the city-wide level will favour a particular set of policing priorities for their local area. The finding that attitudes towards city-wide and local policing may be related helps to add support to the view (expressed in Hypothesis 1 in Chapter 2) that a respondents' attitude towards a specific policing task may reflect a wider perception of what the police should be doing.

6.4 Conclusions

The results presented in this Chapter mirror those in Chapter Five by suggesting that it is possible to identify groups of respondents who express similar preferences for policing, and that the policing tasks particular individuals choose to prioritise may reflect some wider, underlying, belief about how the police should operate. For instance, the factor analysis results reveal that answers concerning the two questions about visible policing are strongly related, as are those which refer to the police playing a role in education. These conclusions provide support for both Hypotheses One and Two developed in Chapter Two.

Differences in preferences for local policing appear to be best summarised using a six class LCA model. The choice of this solution appears well supported by the different diagnostic tests considered, and it was also shown to be the last model where all classes showed clear substantive differences in the preferences they appear to represent. In contrast, the seven class model included two classes which both involve respondents who have no discernable patterns in terms of the policing tasks they wish to prioritise (and hence could be considered as a single group of respondents).

Comparing the analysis in this Chapter to indicators which have previously been used to measure preferences towards policing provides one illustration of why a measure which considers both the overall level of policing individuals favour and the policing tasks they would like to see prioritised may provide a more useful representation of respondents' attitudes. On average, respondents associated with the "Visible Policing and Education" and "Visible Policing and Threatening Issues" preference mixes favour identical levels of policing within their local area. However, they prioritise different forms of policing. This distinction would not be apparent if considering a more basic indicator of the overall level of policing respondents prefer.

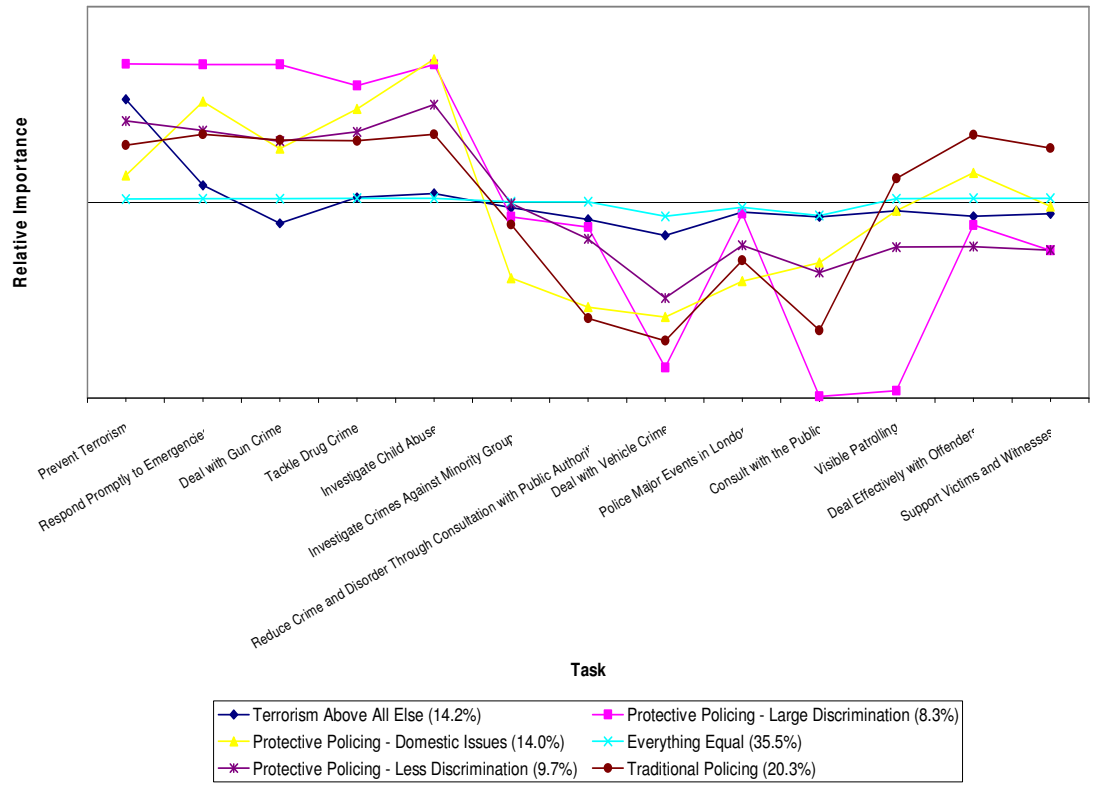
Finally, this Chapter gave brief consideration to possible links between an individual's preferences for policing at both local and city-wide levels. The analysis presented suggests that the two are related in a way which could see both sets of preferences influenced by common factors, for instance, a perception of threat, or a general belief in how the police should act. For example, those respondents who were inclined to believe the police should undertake a wide range of activities in their local area where more likely to have attached a high level of importance to more tasks when considering London as a whole. Despite these apparently logically coherent relationships, the strength of the associations appears relatively weak suggesting that investigating which factors influence a respondent's preferences for policing at the local and city-wide level separately may offer important insights.

CHAPTER 7: EXPLANATIONS OF DIFFERENCES IN PREFERENCES FOR CITY-WIDE POLICING

Until now this thesis has been concerned with using data from the 2003-04 PAS dataset to measure respondents' preferences for policing. As noted in preceding chapters, the indicators created are open to some possible criticism, insofar as the patterns they identify may, to some degree, be influenced by the structure of the original survey questions. Despite these concerns, it would appear that the measures developed offer a useful perspective on respondents' preferences, and one which in many ways is more detailed than has previously appeared in the literature. The remainder of this thesis focuses on whether the characteristics of individual respondents, or the areas in which they reside, influence their preferences for policing. Hence, while it is accepted that the preference indicators used may not be perfect, they are taken as given for the remainder of this analysis.

Figure 7.1 shows the six class representation of preferences for city-wide policing (as developed in Chapter 5). This chapter begins by considering how preferences for policing vary between boroughs. Next, the relationships between a respondent's characteristics (for instance, their gender, age and ethnicity) and their preferences are considered. Finally, both levels of explanatory variables are taken together to try and establish if borough level explanations remain important once respondents' characteristics are controlled for.

Figure 7.1: LCA Six Group Representation of Preferences for City-wide Policing (Relative Importance)



7.1 Borough Level Explanations of Preferences for City-wide Policing

As discussed in Chapter Four, analysis conducted solely at the borough level will not provide definitive evidence that neighbourhood context influences preferences for policing. However, an examination of the geographical distribution of policing preferences will provide a useful overview as to the extent of variation across London. Aggregate indicators of policing preference were created by averaging the probabilities associated with membership of each preference mix across all the respondents within each London borough.

Table 7.1: Descriptive Statistics of Preferences for City-Wide Policing at a Borough Level

Policing Preference	Mean	Standard Deviation	Maximum	Minimum
Everything Equal	33.05%	18.29	62.01%	4.16%
Traditional Policing	20.03%	12.98	43.94%	0.12%
Protective Policing- Large Discrimination	8.42%	13.86	43.91%	0.00%
Protective Policing – Less Discrimination	10.22%	6.35	28.33%	1.42%
Protective Policing – Domestic Issues	14.04%	11.22	42.62%	0.00%
Terrorism Above All Else	14.20%	21.49	77.21%	0.04%

n=32.

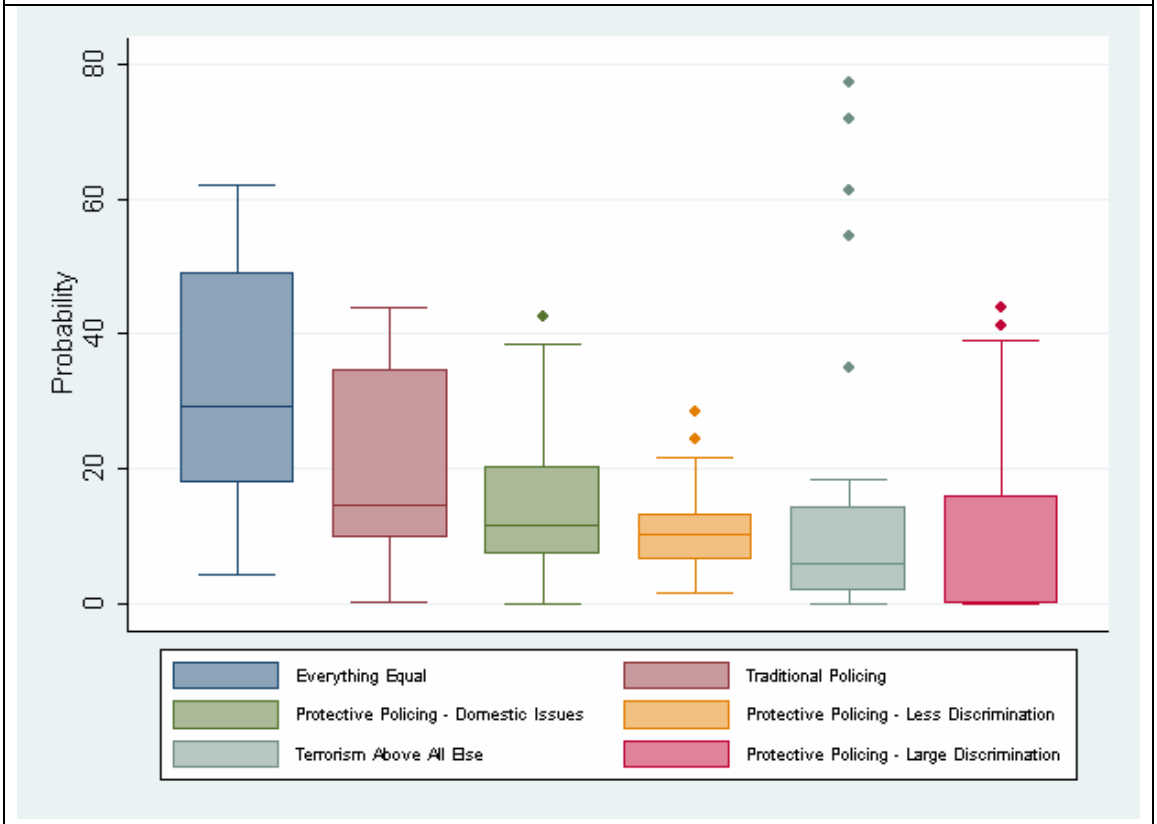
Table 7.1 provides an overview of preferences for city-wide policing, treating each borough as a separate case (n=32). Rather unsurprisingly, given that these measures are the weighted average of the individuals within each borough, the probabilities of favouring each preference mix at a borough level are similar to those found at the individual level (Figure 7.1)[24].

[24] The discrepancies between the two sets of probabilities can be attributed to how the weighting used for the individual level analysis takes account of differences in population size between boroughs. while the borough level analysis gives each borough equal weight.

Table 7.1 provides the first indication that preferences for city-wide policing vary between boroughs. The standard deviations reported suggest that there is a high level of variation between boroughs in terms of the likelihood of a respondent favouring a particular preference mix. This point is supported by the average coefficient of variation (standard deviation divided by the mean for each distribution) for Table 7.1 which is relatively large at 0.97. Indeed the two distributions concerning "Protective Policing - Large Discrimination" and "Terrorism Above All Else" have standard deviations greater than their means. The image of wide variation between boroughs is supported by the range of each distribution, which suggest that while some boroughs appear to have a near zero probability of containing respondents who favour a particular preference mix, others are clearly dominated by membership of a specific class. For example, the highest probabilities associated with the "Everything Equal" preference mix are in excess of 60% (in Richmond, Bexley and Greenwich) and for the "Terrorism Above All Else" grouping are greater than 70% (in Lambeth and Southwark).

Figure 7.2 provides box-plots of the distributions in Table 7.1. In general, these distributions have a positive skew suggesting that some boroughs represent areas of relatively high support for particular preference mixes, a point reinforced by how the outlying cases all appear at the top of the distributions (shown as dots in Figure 7.2). The high number of outliers relating to the "Terrorism Above All Else" preference mix, and the extreme nature of some of these cases, suggests that membership of this group, more than any other, exhibits geographical clustering.

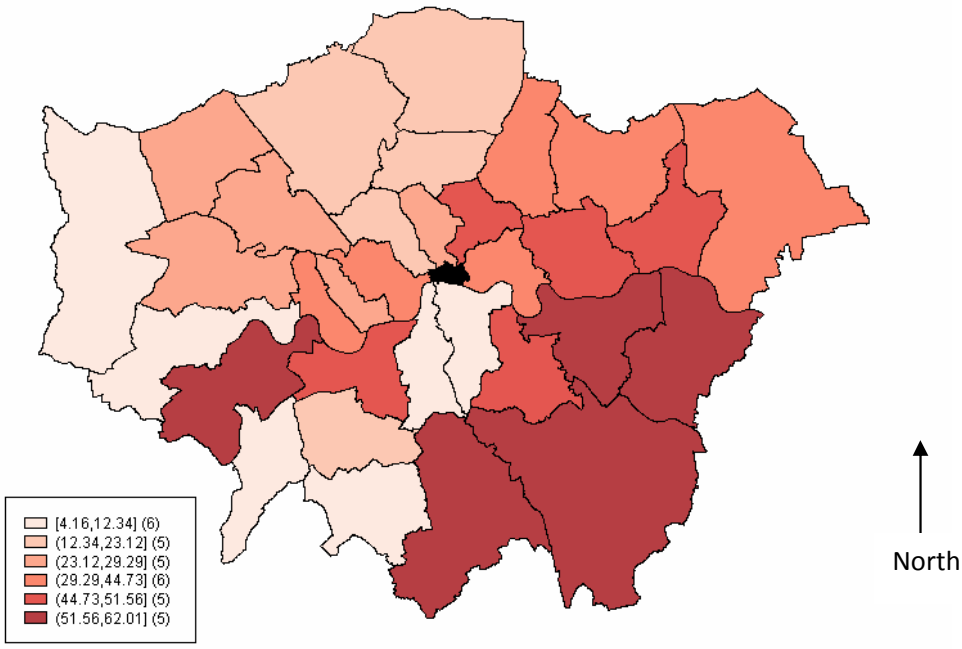
Figure 7.2: Boxplot of Borough Level Mean Probabilities of Support for Different Preference Mixes Relating to City-wide Policing



7.1.1 Geographical Distribution of Preferences

The choropleth maps which follow show how the probability of appearing within each preference mix varies across London. In general, boroughs with similar preferences cluster together, suggesting that preferences could be related to common social, economic and criminological settings (although it is also possible that such a pattern could occur if policing preference was a function of individual characteristics and similar individuals congregate together in particular areas).

Figure 7.3: The Geographical Distribution of Membership in the "Everything Equal" Preference Mix for City-wide Policing



In each map, darker areas represent an increased likelihood of respondents favouring a particular preference mix (probabilities of membership are provided in the legend of each map). Looking at the patterns in Figures 7.3-7.8 illustrates an East-West split in policing preferences. Those boroughs towards the east of the city appear to have a higher probability of their respondents appearing in either the "Everything Equal" or "Traditional Policing" classes (in particular many of the highest probabilities attached to these preference mixes are to be found in the south-east of the city (i.e. Bromley, Bexley and Croydon). This pattern is however not uniform, with Richmond, on the western edge of the city, showing a high probability of support for the "Everything Equal" preference mix. This suggests that preferences for policing membership are a function of more than geographic location, and may be related to factors that, while commonly shared between neighbouring boroughs, need not exclusively be so. Both the "Everything Equal" and "Traditional Policing" preference mixes represent attaching a high overall level of importance to policing (Table 5.14). Therefore, these maps may provide evidence that

common contexts influence the overall level of importance respondents attach to policing.

Figure 7.4: The Geographical Distribution of Membership in the "Traditional Policing" Preference Mix for City-wide Policing

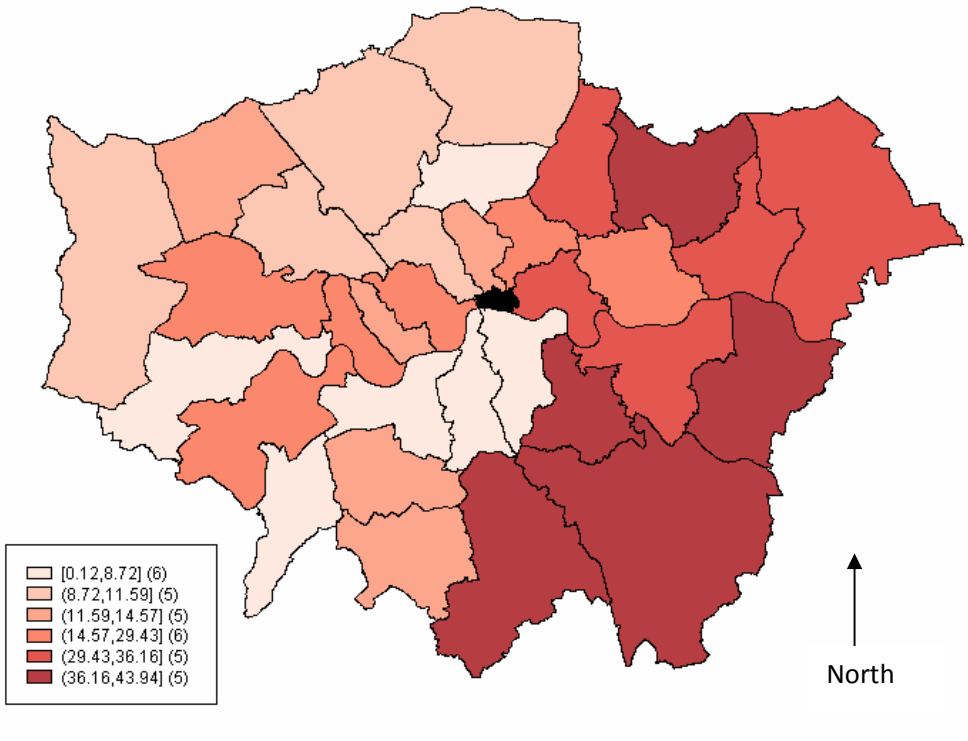


Figure 7.5: The Geographical Distribution of Membership in the "Protective Policing – Large Discrimination" Preference Mix for City-wide Policing

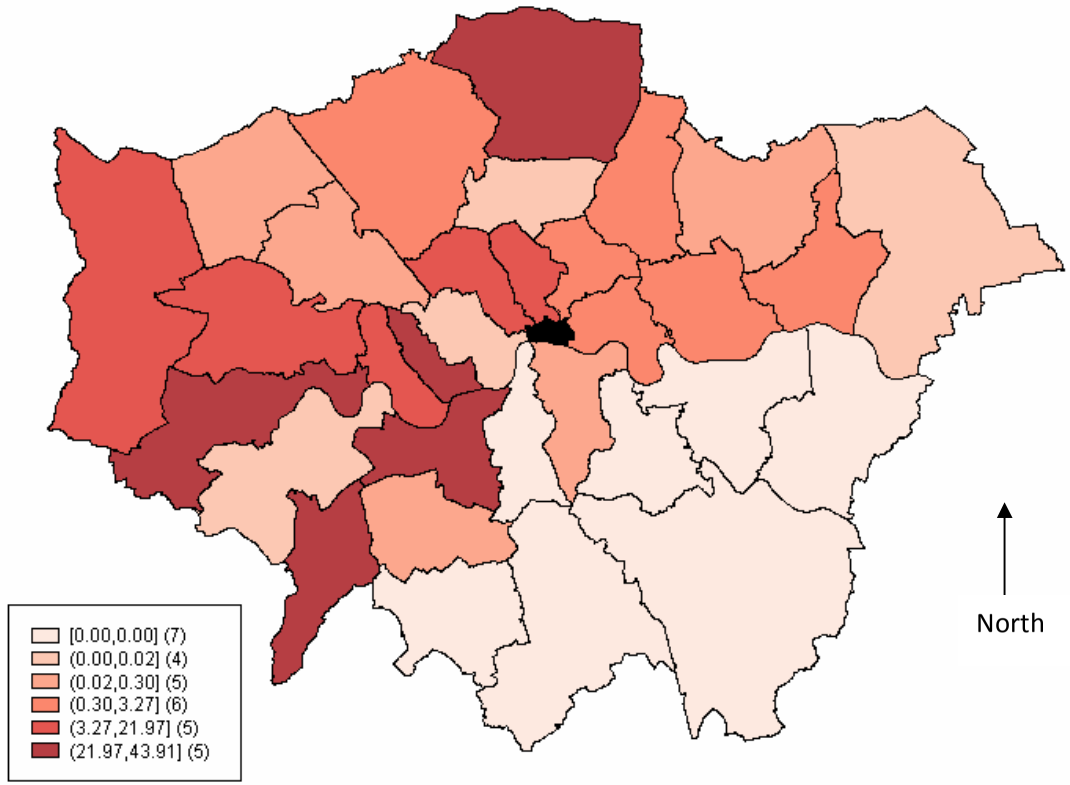


Figure 7.6: The Geographical Distribution of Membership in the "Protective Policing – Less Discrimination" Preference Mix for City-wide Policing

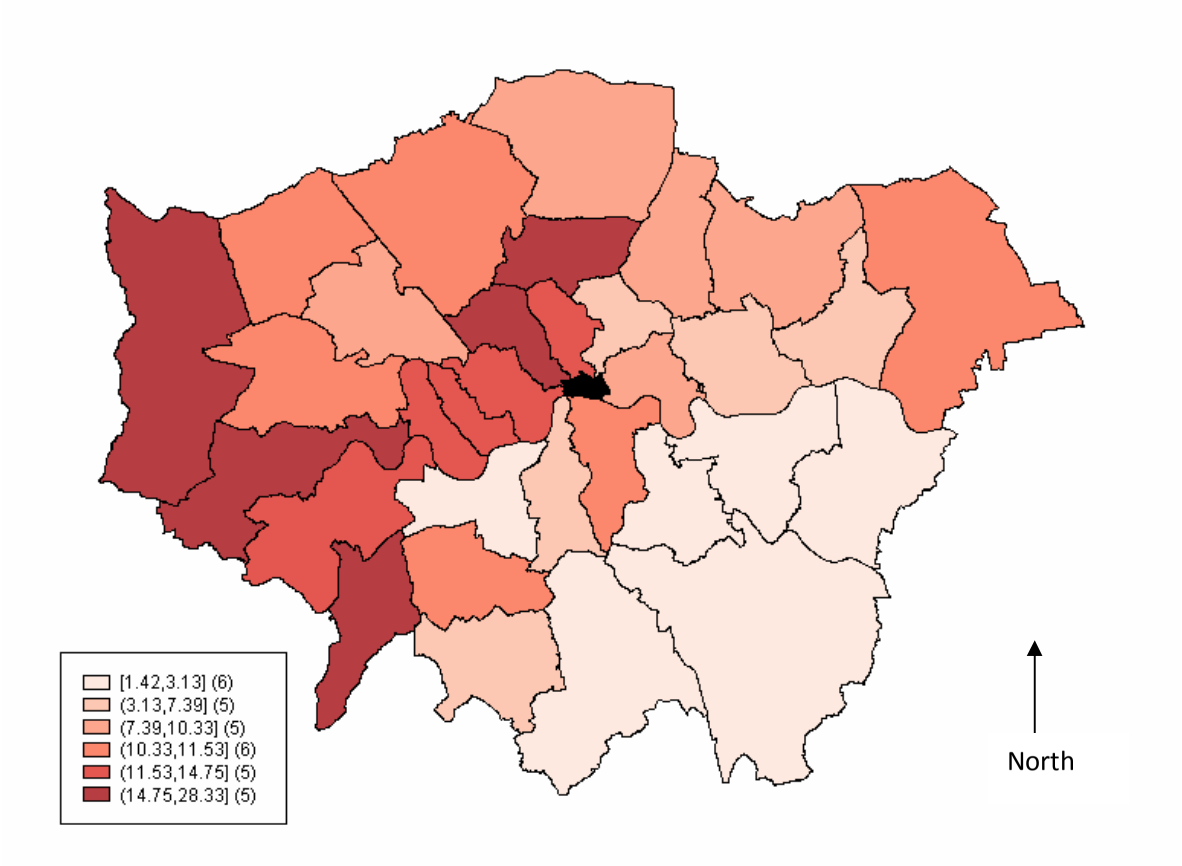


Figure 7.7: The Geographical Distribution of Membership in the "Protective Policing – Domestic Issues" Preference Mix for City-wide Policing

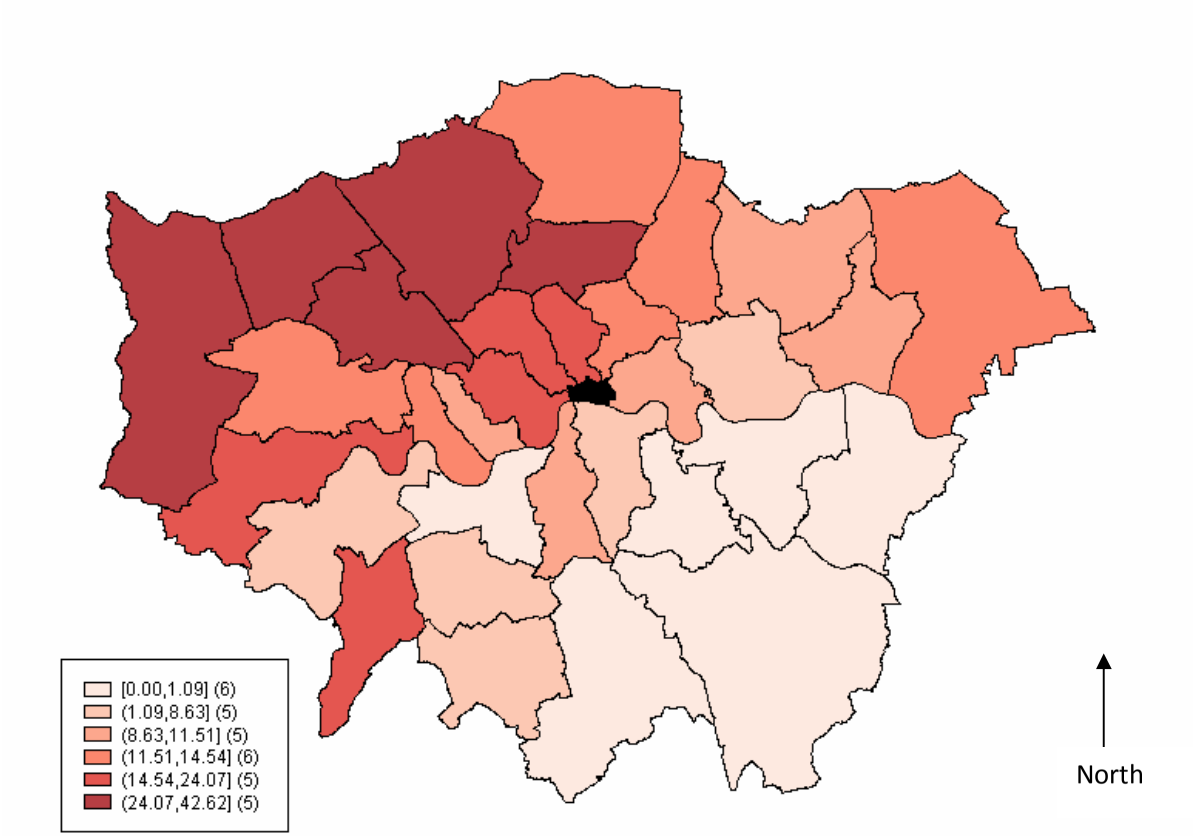
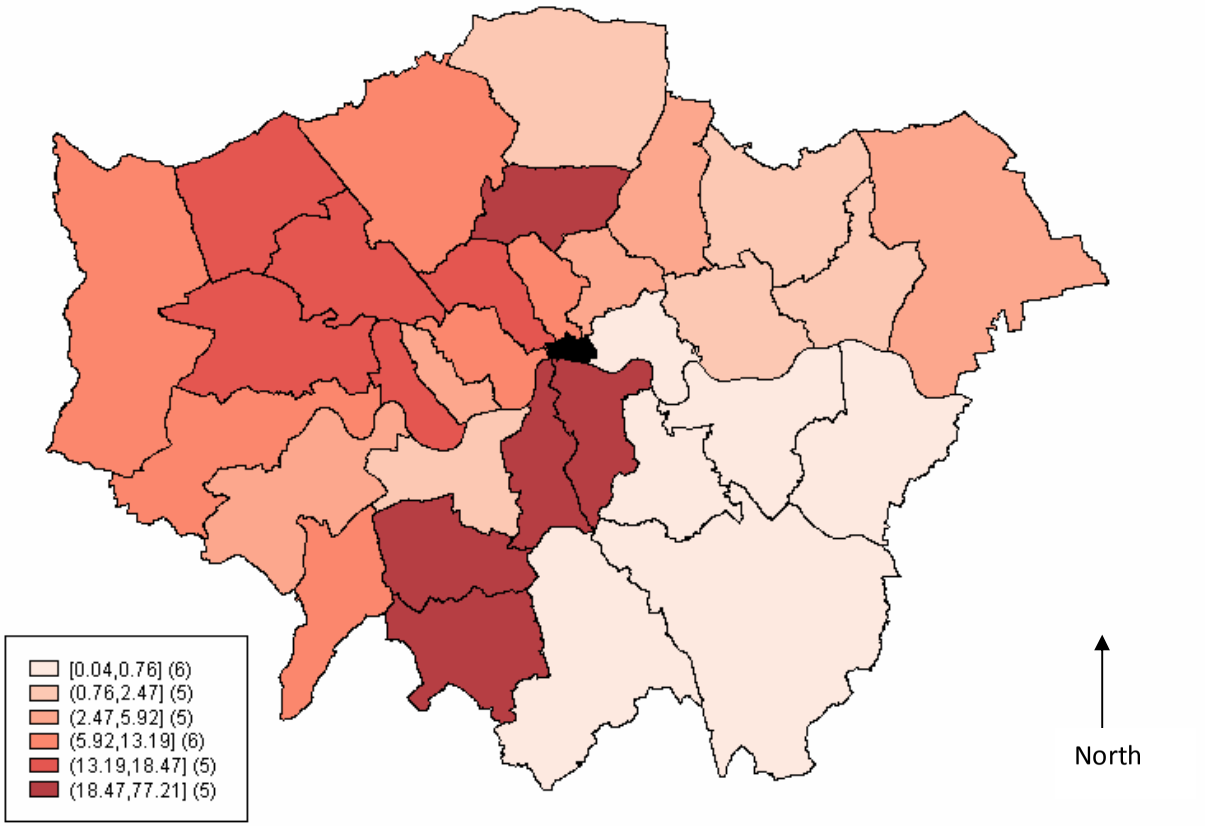


Figure 7.8: The Geographical Distribution of Membership in the "Terrorism Above All Else" Preference Mix for City-wide Policing



Boroughs towards the west of the city are associated with preferences which represent lower overall importance scores, and, in general, involve clearer separation in the relative importance of protective policing over community policing (i.e. "Protective Policing – Large Discrimination", "Protective Policing – Less Discrimination" and "Protective Policing – Domestic Issues"). The Spearman Rho correlations (shown in Table 7.2) support the view that membership of these groups share similar geographical distributions.

Boroughs towards the west of the city are also associated with a higher probability of respondents appearing in the "Terrorism Above All Else" group, but, in contrast to the groups which show a preference for protective policing, this preference mix appears more common towards the centre of London (Sutton, Merton, Lambeth, Southwark and Haringey) rather than the outskirts of the city.

Table 7.2: Spearman Rho Correlations for Membership Probabilities Associated with "Protective Policing" At A Borough Level

Policing Preference	**Protective Policing- Large Discrimination**	**Protective Policing – Less Discrimination**	**Protective Policing – Domestic Issues**
Protective Policing- Large Discrimination	1.00		
Protective Policing – Less Discrimination	.522	1.00	
Protective Policing – Domestic Issues	.471	.694	1.00

n=32. All correlations significant at 0.01 level.

Table 7.3 presents correlations between the preferences of a borough and its location within London. Given the skewed nature of some of the distributions under

consideration and the relatively small-n involved in this analysis, Spearman Rho (non-parametric) correlations are reported.[25]

In fitting with the strong East-West split identified above, all the relationships concerning East-West location achieve significance at the 0.01 level. Positive correlations indicate that support for a particular preference mix is more common towards the east of the city. The correlations confirm that support for the "Equal Everything" and "Traditional Policing" preference mixes is more likely towards the east of London while membership of the "Protective Policing" groups is more common in the west. The correlation concerning respondents favouring the "Terrorism Above All Else" preference mix suggests that membership of this group is more common in boroughs to the west of the city. These results fit with the argument that it is respondents from the west of London who appear to attach lower overall importance to policing.

In contrast to the correlations relating to the East-West axis, those concerning North-South location and overall distance from the centre of London generally fail to achieve significance, even at the 0.05 level. This suggests that neither of these measures have a strong relationship to policing preference. Only support for the "Protective Policing – Domestic Issues" preference mix shows a significant relationship with location on the North-South axis (membership of this group generally increasing the further north a borough is located). The failure of any of the correlations concerning distance from the centre of the city to achieve significance is intriguing because a large body of literature (notably associated with the Chicago School) would suggest differences will exist between inner-city and more peripheral areas. As this analysis has yet to consider which explanatory factors may be related to differences in preferences between boroughs, no definitive explanation for this finding can be suggested. However, one plausible explanation is that London is unique, with the differences between inner London and its outer reaches being

[25] Using parametric Pearson r correlations does not alter the pattern presented.

relatively small compared to many other urban areas. Despite this finding, the analysis presented in this section does offer some early support for the expectation that policing preferences may vary between boroughs (supporting Hypothesis 4 in Chapter 2).

Table 7.3: Spearman Rho Correlations of City-Wide Policing Preference and Borough Location

Policing Preference	West to East	South to North	Distance From Centre
Everything Equal	.539*	-.102	-.008
Traditional Policing	.664*	-.047	.089
Protective Policing- Large Discrimination	-.487*	.297	-.055
Protective Policing – Less Discrimination	-.635*	.203	-.043
Protective Policing – Domestic Issues	-.518*	.654*	.020
Terrorism Above All Else	-.554*	.094	-.162

n=32. *significant at 0.01 level.

7.1.2 Bivariate Analysis

The above analysis suggests that preferences for city-wide policing do vary between boroughs, and that boroughs with similar types of preferences are often clustered together. However it provided no insight as to the factors underlying this variation. Tables 7.4-7.9 provide correlations to suggest how preferences at a borough level vary depending on a borough's characteristics. As outlined in Chapter Four, the multivariate borough level modelling will employ OLS regression. This is a parametric technique and the results it produces may be compromised if the variables considered do not exhibit normal distributions. Figure 7.2 suggested that the distributions of preferences for city-wide policing are skewed. To investigate the extent to which this skewness may influence any results of parametric regression models, both parametric (Pearson r) and non-parametric (Spearman Rho) correlations

will be presented. Generally speaking, the results of the two types of correlation are consistent. The major exception to this pattern are the results concerning support for the "Terrorism Above All Else" preference mix, where the Spearman correlations suggest a wider range of significant relationships than do the Pearson tests. This can probably be attributed to the particularly skewed nature of this distribution (Figure 7.2), and serves as a warning of the need to treat the results of any subsequent multiple regression models with caution. Results which are significant across both types of correlation can be considered the most robust, and it is these relationships which will be the focus of any explanations provided.

The correlations presented in Table 7.4 consider how preferences for city-wide policing vary depending on how a borough's residents perceive the state of their neighbourhood. Membership of the "Everything Equal" preference mix appears more likely in boroughs where respondents hold less favourable views of their local area. A similar set of relationships can be identified with reference to membership of the "Traditional Policing" group. Recalling that these two preference mixes involve respondents who attach a high overall level of importance to policing (Table 5.14), these relationships would appear to suggest that the aggregate level of importance attached to policing is higher in areas which exhibit greater levels of disorder (or at least where residents perceive more disorder). These results may reflect a belief amongst respondents that increased policing will improve the nature of an area, or, as discussed in Chapters Two and Three, could represent an appeal to the symbolism of the police as a provider of order and control.

Table 7.4: Correlations Between Preferences for City-Wide Policing and Indicators of Neighbourhood Perceptions at a Borough Level						
	Everything Equal	**Traditional Policing**	**Protective Policing- Large Discrimination**	**Protective Policing – Less Discrimination**	**Protective Policing – Domestic Issues**	**Terrorism Above All Else**
Proportion of Respondents Experiencing Higher than Average Neighbourhood Problems	.524** (.532**)	.460** (.366*)	.241 (.085)	-.276 (-.473**)	-.500** (-.430*)	-.537** (-.810**)
Proportion of Respondents Satisfied with Local Area	-.416* (-.378*)	-.524** (-.386*)	.501** (.411**)	.472** (.542**)	.330 (.327)	.036 (.364*)
Proportion of Respondents who Fear Crime in Local Area	.081 (.076)	.197 (.060)	-.383* (-.401*)	-.327 (-.407*)	-.104 (-.192)	.210 (-.104)
Proportion of Respondents who Feel Safe When Out After Dark in Local Area	-.343 (-.386*)	-.527** (-.424*)	.459** (.536**)	.530** (.661**)	.221 (.328)	.042 (.422**)
n=32. All explanatory variables as defined in Chapter 3. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. Correlations are Pearson's r correlations with Spearman equivalents given in brackets.						

The lack of significant relationships between membership of the "Everything Equal" and "Traditional Policing" groups and fear of crime would appear to be contrary to the relationships discussed above. This suggests that preferences for policing may be related to a much wider range of concerns than the perceived threat of crime.

The strong negative relationship between respondents favouring the "Terrorism Above All Else" preference mix and the proportion of people who perceive their borough as having a high level of neighbourhood problems suggests support for this set of priorities is higher in areas which are perceived as having less need for day-to-day policing. This probably reflects the fact that individuals living in boroughs which exhibit fewer incivilities are less likely to perceive an immediate need for policing, and so direct relatively more attention to wider issues such as fighting terrorism.

The correlations involving the probabilities of respondents favouring any of the three "Protective Policing" preference mixes suggest that support for these preferences is generally higher in "good" areas (a mix of negative relationships concerning the

perception of neighbourhood problems and fear of crime, along with positive correlations with neighbourhood satisfaction and safety after dark). While there appears to be no real pattern when comparing the size of coefficients between these three groups, the overall picture can be seen as supporting the view that those respondents who live in areas which present less immediate evidence of a need for policing are more discriminating in the importance they attach to different tasks, and consequently exhibit a lower overall importance rating for policing.

Table 7.5: Correlations Between Preferences for City-Wide Policing and Indicators of Crime and Conflict with the Police at a Borough Level

	Everything Equal	Traditional Policing	Protective Policing- Large Discrimination	Protective Policing – Less Discrimination	Protective Policing – Domestic Issues	Terrorism Above All Else
Proportion of Respondents who have Experienced Conflictual Contact with the Police	.341 (.360*)	.286 (.271)	.007 (-.031)	-.133 (.049)	-.229 (-.157)	-.309 (-.197)
Proportion of Respondents who Have Been a Victim of Crime in the Last 12 Months	.376* (.346)	.146 (.172)	.041 (.347)	.062 (.115)	.003 (.138)	-.454** (-.291)

n=32. All explanatory variables as defined in Chapter 3. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. Correlations are Pearson's r correlations with Spearman equivalents given in brackets.

While Table 7.4 supports the view that the nature of an area, and how it is perceived, are strong predictors of policing preference, Table 7.5 gives the impression that preferences for city-wide policing are less influenced by the prevalence of crime or the level of conflictual police activity. None of the relationships are statistically significant across both types of correlation. Those relationships which appear significant in at least one test suggest that support for the "Terrorism Above All Else" preference mix is more likely in boroughs with lower levels of crime, while membership of the "Everything Equal" group may be more common in boroughs with higher levels of crime and conflict with the police. All of these relationships fit with the expectations discussed above with regards to Table 7.4. However, the lack of consistency between the Pearson and Spearman correlations means any conclusions should be treated with extreme caution. Overall, comparing Tables 7.4 and 7.5 suggests that preferences for policing are more influenced by differences in

perceptions of an area, or the degree of low-level disorder, than by actual levels of victimisation or conflict with the police.

The correlations in Table 7.6 relate a borough's preferences for city-wide policing to its ethnic composition. Rather surprisingly, given the apparent importance of ethnicity in much debate over attitudes towards the police, Table 7.6 indicates that the overwhelming picture is one where preferences do not vary significantly in relation to a borough's ethnic profile. Three of the four relationships which do appear significant and consistent across both types of correlation refer to the proportion of a borough's population who have their ethnicity classified as "Other". Lack of information concerning who is included in this group makes it difficult to speculate on reasons why this should be the case.

Table 7.6: Correlations Between Preferences for City-Wide Policing and Ethnicity at a Borough Level

	Everything Equal	Traditional Policing	Protective Policing- Large Discrimination	Protective Policing – Less Discrimination	Protective Policing – Domestic Issues	Terrorism Above All Else
Proportion of Population in Asian Ethnic Groups	-.046 (-.140)	.027 (-.117)	-.067 (.381*)	.148 (.223)	.413* (.485**)	-.193 (.064)
Proportion of Population in Black Ethnic Groups	-.068 (-.018)	-.042 (-.085)	-.246 (-.062)	-.282 (-.224)	-.034 (.032)	.342 (.128)
Proportion of Population in White Ethnic Groups	.128 (.139)	.069 (.125)	.160 (-.059)	.010 (-.024)	-.334 (-.314)	-.082 (.235)
Proportion of Population in Other Ethnic Groups	-.372* (-.360*)	-.436* (-.433*)	.185 (.316)	.276 (.448*)	.350* (.421*)	.195 (.503**)
Ethnic Homogeneity	.148 (.133)	.094 (.120)	.140 (-.062)	.002 (-.020)	-.352* (.319)	-.089 (-.229)

n=32. All explanatory variables as defined in Chapter 3. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. Correlations are Pearson's r correlations with Spearman equivalents given in brackets.

Only one relationship concerning a borough's age structure achieves significance across both types of correlation. This relationship suggests that areas which have a higher proportion of their population in the 25-44 age group are less associated with support for the "Traditional Policing" preference mix. These findings suggest that the age structure of a borough has relatively little impact on preferences for city-wide policing.

Table 7.7: Correlations Between Preferences for City-Wide Policing and Indicators of a Borough's Age Structure						
	Everything Equal	**Traditional Policing**	**Protective Policing- Large Discrimination**	**Protective Policing – Less Discrimination**	**Protective Policing – Domestic Issues**	**Terrorism Above All Else**
Proportion of Population Aged 24 and Under	.104 (.051)	.264 (.082)	-.270 (-.059)	-.096 (-.214)	.030 (-.314)	-.062 (-.170)
Proportion of Population Aged Between 25 and 44	-.233 (-.217)	-.453** (-.426*)	.236 (.226)	.089 (.281)	-.035 (.059)	.312 (.399*)
Proportion of Population Aged Between 45 and 64	.090 (.092)	.161 (.274)	.016 (-.204)	.061 (.012)	.059 (-.057)	-.233 (-.170)
Proportion of Population Aged 65 and Over	.188 (.136)	.300 (.332)	-.093 (-.211)	-.106 (-.146)	-.044 (-.080)	-.227 (-.231)
Homogeneity of Age Distribution	-.140 (.078)	-.278 (-.280)	.100 (.240)	.038 (.084)	-.026 (.035)	.226 (.174)

n=32. All explanatory variables as defined in Chapter 3. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. Correlations are Pearson's r correlations with Spearman equivalents given in brackets.

Levels of deprivation and inequality have often been found to be associated with a range of criminal justice outcomes (Glover, 2008). It is, therefore, a natural assumption that these factors will be related to preferences towards policing. However, correlations concerning a borough's average score on the Index of Multiple Deprivation and the level of inequality in deprivation across a borough all fail to achieve significance (Table 7.8). This suggests that a borough's preferences for city-wide policing are not be related to its level of deprivation.

Table 7.8: Correlations Between Preferences for City-Wide Policing and Indicators of Social Class, Deprivation and Inequality at a Borough Level						
	Everything Equal	**Traditional Policing**	**Protective Policing- Large Discrimination**	**Protective Policing – Less Discrimination**	**Protective Policing – Domestic Issues**	**Terrorism Above All Else**
Proportion of Population in Social Classes A and B	-.187 (-.265)	-.502** (-.429*)	.355* (.219)	.281 (.437*)	.081 (.118)	.109 (.393*)
Proportion of Population in Social Classes C1 and C2	.083 (.060)	.297 (.295)	-.157 (-.310)	-.163 (-.337)	-.005 (-.070)	-.098 (-.214)
Proportion of Population in Social Classes D and E	.150 (.126)	.360* (.209)	-.285 (-.120)	-.203 (-.221)	-.084 (.031)	-.058 (-.141)
Homogeneity of Social Class	.148 (.133)	.485** (.410*)	-.227 (-.213)	-.286 (-.399*)	-.194 (-.238)	-.320 (-.453**)
Index of Multiple Deprivation Score	.010 (.005)	.064 (-.053)	-.150 (.090)	-.052 (.018)	.005 (.141)	.062 (.069)
Inequality of Deprivation	.044 (.022)	-.016 (.089)	.057 (-.150)	-.015 (-.016)	-.072 (-.160)	-.023 (-.070)
n=32. All explanatory variables as defined in Chapter 3. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. Correlations are Pearson's r correlations with Spearman equivalents given in brackets.						

The overriding picture from Table 7.8 is that there is little relationship between social class and preferences for city-wide policing, with only two relationships appearing significant in both the Pearson and Spearman tests. Boroughs which have a high proportion of their population in social classes A and B appear to have a lower likelihood of respondents appearing in the "Traditional Policing" group. This suggests that those who attach a relatively high level of overall importance to policing, and generally have a preference for crime related policing, may well come from areas which are economically worse off. Membership of this preference mix also appears more common in boroughs where there is a higher concentration of individuals from one section of the social ladder. This result (combined with the significant Pearson correlation in Table 7.6 linking ethnic diversity with increased support for the "Protective Policing – Domestic Issues" preference mix) provides evidence that those living in areas with more diverse populations may favour preferences which represent less demand for day-to-day policing.

It could be expected that boroughs with a less stable population will be associated with a reduction in the expectation that informal social controls will function effectively and hence an increase in the perceived need for policing (Sampson and Groves, 1989). Reflecting the view that respondents who live in boroughs with stable populations may perceive less need for day-to-day policing, support for the "Terrorism Above All Else" preference mix appears inversely related to the level of population turnover.

Urbanisation is often associated with differences in criminological issues such as victimisation and fear of crime. Therefore, it could be that areas which are more densely populated will have different priorities for policing than less populated areas. However, none of the correlations in Table 7.9 achieve significance. As with the lack of significant relationships concerning a borough's location relative to central London (Table 7.3), this finding could be attributed to the fact that London is a unique case, with consistently high levels of urbanisation.

Table 7.9: Correlations Between Preferences for City-Wide Policing and Indicators of Population Turnover and Density at a Borough Level

	Everything Equal	Traditional Policing	Protective Policing- Large Discrimination	Protective Policing – Less Discrimination	Protective Policing – Domestic Issues	Terrorism Above All Else
Proportion of Respondents who have Lived in Area for Less Than 1 Year	.328 (.301)	.329 (.290)	.337 (.240)	-.104 (-.134)	-.426* (-.278)	-.442* (-.486**)
Population Density	-.158 (-.125)	-.210 (-.212)	.127 (.190)	.024 (.133)	-.022 (.048)	.184 (.297)

n=32. All explanatory variables as defined in Chapter 3. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. Correlations are Pearson's r correlations with Spearman equivalents given in brackets.

7.1.3 Multivariate Analysis

The previous analysis provides an indication as to how preferences for policing may vary depending on the nature of a borough. However, an area's preference for policing is likely to be a function of many different neighbourhood characteristics, and these explanatory factors may well be related to each other. Therefore, a multivariate approach is needed to try and identify those factors which are most strongly related to variation in preferences. Table 7.10 provides OLS regression

models aimed at identifying the most significant predictors of a borough's preferences for city-wide policing. Despite the concern that these results may be influenced by the non-normal distributions identified in Table 7.2, the relationships identified in Table 7.10 generally fit with the expectations, developed in Chapter Two, about who favours increased levels of policing.

The strength of explanation provided by the models in Table 7.10 is low; only two models have r–squared values above 0.5, and three of the six models only identify a single significant factor. This suggests that the neighbourhood characteristics considered provide only a limited amount of explanation for the patterns of preferences described earlier. However, the factors identified are mostly consistent with the previous correlation results (those coefficients in bold in Table 7.10 refer to a relationship which was significant in both types of bivariate test, while those in italics were significant in one of the correlation techniques employed).

The finding that the probability of support for the "Everything Equal" class is greater in boroughs with a higher perceived level of neighbourhood problems is consistent with the view that support for preference mixes that attach a high overall level of importance to policing will be greater in areas perceived as presenting a relatively high level of threats to persons and property.

The model for the "Traditional Policing" preference mix suggests that membership of this group is also more likely in boroughs where threats to security are high. For example, membership of this group is inversely related to the proportion of the population who feel safe when out after dark and positively related to the level of conflictual police activity (which at a borough level can be considered a possible indicator of the level of criminality). As with the bivariate analysis, this model suggests that membership of this group is greater where the population is more homogeneous in terms of social class.

In keeping with the bivariate analysis, the remaining models suggest that support for the remaining preference mixes is generally higher in areas that are relatively well regarded. Membership of the classes labelled "Protective Policing – Large Discrimination" and "Protective Policing – Less Discrimination" are positively

related to the proportion of respondents satisfied with the local area and the proportion of the population who feel safe when out after dark. Similarly, the probability of membership in the "Protective Policing – Domestic Issues" class increases as the perception of neighbourhood problems decreases. Additionally, membership of this group seems to be more likely in areas where more of the population are of Asian origin, although it is not immediately clear why this should be so.

The model concerning membership in the "Terrorism Above All Else" group includes the highest number of significant explanatory factors identified in Table 7.10 and shows the largest adjusted r-squared value. However, any conclusion that this means that support for this preference mix is better explained by the explanatory factors considered should be treated with caution, as this result may be a function of the highly skewed nature of this distribution. The first two factors identified ("Proportion of Respondents Experiencing Higher Than Average Neighbourhood Problems" and the "Proportion of Respondents who Have Been a Victim of Crime in the Last 12 Months") are consistent with the bivariate analysis and the expectation that those respondents who live in areas which are perceived as requiring less day-to-day policing will attach relatively more importance to the police addressing terrorism. The negative relationship with the level of conflictual police contact also supports this argument. The negative association between membership of this group and the proportion of the population who are of an Asian origin is an addition compared to the bivariate results. It would seem that this relationship could be theoretically supported if the level of Asians within the population is taken as a proxy for the proportion that might feel targeted by anti-terror policing in the post 9/11 period. The model also indicates that membership of this class is less likely in areas where a large proportion of the population is aged 45-64. The apparent curvilinear nature of this relationship (neither age category either side of this one appear significant) is compounded by the fact that it is hard to provide a rationale for this finding, suggesting that this result, more than any other within the model, should be treated with extreme caution.

Table 7.10: OLS Regression Models of Preferences for City-Wide Policing and Borough Level Explanatory Variables						
	Everything Equal	**Traditional Policing**	**Protective Policing- Large Discrimination**	**Protective Policing – Less Discrimination**	**Protective Policing – Domestic Issues**	**Terrorism Above All Else**
Constant	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Proportion of Respondents Experiencing Higher Than Average Neighbourhood Problems	**0.524** **(3.373)****				**-0.476** **(-3.294)****	**-0.497** **(-4.163)****
Proportion of Respondents who Feel Safe When Out After Dark		**-0.408** **(-3.193)****		**0.530** **(3.424)****		
Proportion of Respondents Satisfied with Local Area			**0.501** **(3.167)****			
Proportion of Respondents who Have Been a Victim of Crime in the Last 12 Months						*-0.349* *(-2.923)***
Proportion of Respondents Reporting Conflictual Contact with the Police		0.453 (3.555)**				-0.274 (-2.432)*
Homogeneity of Social Class		**.493** **(3.705)****				
Percentage Population Aged 45-64						-0.484 (-4.128)**
Percentage Population in Asian Ethnic Groups					*0.383* *(2.652)**	-0.296 (-2.574)*
Adj R-Squared	.251**	.539**	.226**	.257**	.355**	.618**

n=32. All explanatory variables as defined in Chapter 3. t-statistics given in brackets. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. It is this recoding which is responsible for all the constants appearing equal to zero.

Taken as a whole, the ecological analysis presented suggests that preferences for city-wide policing do vary between boroughs and that at least some of this variation can be explained by variables commonly used in criminological research (supporting the 4th hypothesis developed in Chapter 2). Furthermore, reasonable explanations related to the characteristics of areas can be suggested for many of relationships identified.

7.2 Individual Level Explanations of Preferences for City-wide Policing

While the previous analysis suggests that preferences for city-wide policing vary across London, there remains the possibility that these findings could be an artefact of the fact that respondents with similar characteristics may live close together. This means it is necessary to control for differences between individuals before the impact of neighbourhood context can be accurately assessed. The following analysis therefore considers how the characteristics of respondents may be related to their preferences for city-wide policing.

7.2.1 Bivariate Analysis

Tables 7.11-7.13 are based on respondents' individual probabilities of appearing in each of the preference mixes shown in Figure 7.1[26]. The figures presented give the mean probability of a respondent with a given characteristic favouring a particular preference mix (the figures in brackets provide a 95% confidence interval for this estimate). The first category of each explanatory characteristic is taken to be the reference category. Where a probability is significantly different from the reference category (at the 0.05 level), this is highlighted in the table. For instance, Table 7.11 indicates that females are significantly more likely to be associated with the "Everything Equal" preference mix. Correspondingly, being female appears to give a slightly lower probability of appearing in any of the other preference groups, although, as the difference associated with membership in the "Everything Equal" group is spread across the five other classes, none of these differences are statistically significant. Recalling that the "Everything Equal" preference mix is associated with attaching the highest absolute level of importance to policing, this finding can be seen as consistent with the analysis of Salmi et al (2005) that women prefer more policing than men.

[26] It was noted in Chapter Four that for each respondent, the LCA analysis provided a probability of that respondent appearing in a particular class (preference mix) based on the responses they had provided to the initial survey. It is these probabilities which are used for this analysis.

It appears that age has little significant impact on preferences for city-wide policing. There is an increase in support for the "Everything Equal" preference mix amongst those respondents aged 65 and over. This finding fits with the view that those who feel more vulnerable, or fearful of crime, may attach greater importance to policing, and mirrors the conclusions of Salmi et al (2005). Support for the "Traditional Policing" preference mix appears significantly higher amongst respondents aged 45-64. One explanation for this could be that increased membership of the "Traditional Policing" group (a preference mix which represents attaching the second highest overall level of importance to policing, and a wish to see the police address a range of perceived serious threats) could be expected to grow as individuals age. However, as respondents age further they develop a desire to see an even greater level of policing and are therefore more likely to favour the "Everything Equal" preference mix.

Table 7.11 suggests preferences for city-wide policing do not vary substantial depending on the ethnicity of the respondent. This marks a contrast with much existing work which sees ethnicity as a major explanatory factor in relation to attitudes towards the criminal justice system (Roberts and Hough, 2005, pp 40-41). To some extent, this finding may be attributable to the large confidence interval associated with estimates relating to Non-White respondents, who are relatively uncommon within the dataset. There is evidence that Black respondents are more likely to be associated with the "Terrorism Above All Else" preference mix. This relationship may reflect a negative view of day-to-day policing (FitzGerald et al, 2002, pp86-87) rather than support for anti-terror policing. In essence, Black respondents rate anti-terror policing relatively highly because they believe day-to-day policing unfairly targets them. The only other significant difference in policing preferences across ethnicities suggests that those classified as "Other" are less likely to associate with the "Traditional Policing" preference mix. As noted previously, the diverse nature of respondents in this category means it is difficult to provide a convincing explanation for this finding.

Given the important role social status appears to play in explaining attitudes towards the police (FitzGerald et al, 2002, pp160-161 and Renauer, 2008), it is not surprising that these results display more of a pattern than any of the other explanatory factors considered in Table 7.11. Those in the higher social classes (AB) are more likely to

support preference mixes which represent attaching a high overall level of importance to policing ("Everything Equal" and "Traditional Policing"). Membership of the remaining preference mixes is generally associated with those in social classes C1 and below. This pattern suggests those in higher social classes may feel more supportive of the police, and see them as a service who will protect their wellbeing. Respondents from social classes D and E have an increased likelihood of supporting the "Terrorism Above All Else" preference mix. As with the popularity of this preference mix amongst Black respondents, this may reflect a wish to attach less importance to day-to-day policing functions, rather than a fear of terrorism. Respondents in social classes C1 and C2 exhibit a higher probability of appearing in the "Protective Policing – Domestic Issues" group than those in other social classes. The reason for this is unclear. However, it may be that that the tasks prioritised in this preference mix (for instance child abuse and drug crime) reflect those concerns which particularly resonate with the middle classes (maybe as a result of media coverage or other social influences). Middle class support for the "Protective Policing – Domestic Issues" preference mix could also be taken alongside the increased probability of these respondents appearing in the "Protective Policing – Large Discrimination" grouping to provide evidence that they are more selective in the policing tasks they wish to prioritise.

Table 7.11: The Relationships Between Respondent Characteristics and Preferences for City-wide Policing						
Explanatory Factor	**Everything Equal**	**Traditional Policing**	**Protective Policing- Large Discrimination**	**Protective Policing – Less Discrimination**	**Protective Policing – Domestic Issues**	**Terrorism Above All Else**
Gender						
Male	31.83 (30.31-33.35)	20.63 (19.40-21.86)	8.60 (7.65-9.55)	9.83 (8.95-10.72)	14.64 (13.55-15.74)	14.43 (13.34-15.51)
Female	35.08* (33.64-36.53)	19.95 (18.83-21.08)	8.00 (7.14-8.85)	9.63 (8.81-10.46)	13.47 (12.48-14.46)	13.83 (12.83-14.83)
Age						
15-24	33.04 (30.48-35.60)	17.58 (15.67-19.49)	8.45 (6.88-10.02)	9.91 (8.40-11.41)	16.20 (14.30-18.09)	14.79 (12.98-16.60)
25-44	31.80 (30.20-33.41)	20.36 (19.06-21.65)	8.83 (7.81-9.85)	9.71 (8.77-10.65)	14.23 (13.07-15.39)	15.04 (13.86-16.22)
45-64	33.34 (31.24-35.45)	22.38* (20.65-24.11)	7.92 (6.66-9.18)	10.21 (8.97-11.44)	12.96 (11.53-14.04)	13.15 (11.71-14.60)
65+	38.42* (35.84-41.01)	19.65 (17.69-21.61)	7.42 (5.97-8.86)	8.89 (7.51-10.28)	12.90 (11.22-14.58)	12.67 (11.01-14.33)
Ethnic Group						
White	32.96 (31.73-34.19)	21.28 (20.28-22.29)	8.74 (7.97-9.51)	9.64 (8.93-10.35)	13.88 (13.01-14.74)	13.47 (12.61-14.32)
Asian	36.28 (33.18-39.38)	18.47 (16.06-20.88)	7.89 (6.09-9.69)	11.14 (9.24-13.04)	15.23 (13.00-17.46)	11.01 (9.13-12.89)
Black	33.20 (30.03-36.38)	18.41 (16.11-20.72)	6.64 (4.89-8.40)	7.69 (6.10-9.28)	14.05 (11.85-16.26)	19.90* (17.31-22.49)
Other	35.63 (31.17-40.09)	15.24* (12.19-18.30)	7.01 (4.56-9.46)	11.57 (8.79-14.35)	13.06 (10.13-15.99)	17.44 (14.10-20.79)
Social Class						
AB	38.51 (35.76-41.23)	26.42 (24.08-28.76)	1.74 (0.97-2.51)	8.75 (7.31-10.19)	12.69 (10.86-14.51)	11.86 (10.10-13.61)
C1C2	32.69* (31.28-34.13)	19.00* (17.89-20.11)	8.24* (7.37-9.12)	10.22 (9.37-11.07)	17.46* (16.34-18.58)	12.35 (11.42-13.29)
DE	32.60* (30.72-34.48)	19.04* (17.57-20.52)	12.08* (10.71-13.44)	8.99 (7.93-10.06)	8.77* (7.72-9.81)	18.48* (16.97-20.01)
Lived in Area Less Than 12 Months						
No	33.49 (32.40-34.59)	20.14 (19.27-21.00)	7.41 (6.77-8.04)	9.92 (9.28-10.56)	14.39 (13.61-15.17)	14.62 (13.83-15.40)
Yes	34.12 (30.66-37.59)	21.59 (18.78-24.39)	16.94* (14.07-19.80)	7.75 (6.00-9.51)	10.41* (18.78-24.39)	9.15* (7.14-11.17)

Overall n=7135. All explanatory variables as defined in Chapter 3. Figures in brackets are 95% confidence intervals for mean estimates.
* indicates significant difference from reference group at 0.05 level.

The finding that support for the "Traditional Policing" preference mix is greater amongst respondents from higher social classes is the inverse of the relationship identified in the borough level results (Table 7.8). This illustrates how any attempt to model policing preferences using only one level of explanatory variables may lead to

erroneous conclusions and supports the view that a multilevel based explanation is likely to provide a more complete picture.

Finally, Table 7.11 considers how an individual's probability of membership in a given preference group varies depending on the length of time they have lived in their current area. These results suggest that those respondents who have recently moved are significantly more likely to favour the "Protective Policing – Large Discrimination" preference mix. One explanation for this finding may be that these respondents hold a less certain perception of the level of disorder within their new locality or lack knowledge of how the community responds to disorder. Therefore, they prioritise those policing tasks which are most likely to offer them "protection". Such an explanation would fit with the literature on informal social controls (Sampson and Groves, 1989) as respondents are reacting to their lack of experience of their new community by favouring more protective policing. The findings that those individuals who have recently moved are less likely to appear in either the "Protective Policing – Domestic Issues" or "Terrorism Above All Else" classes mirror the results at a borough level.

Table 7.12 relates policing preference to different characteristics of a respondent's family life. Many of these factors are related to an individual's age or social class and it is therefore not surprising that many of the relationships identified in Table 7.12 reflect those discussed with reference to Table 7.11. For instance, those respondents who own at least one car have a significantly higher probability of appearing in the "Traditional Policing" and "Protective Policing – Domestic Issues" groups, and a lower probability of being associated with the "Terrorism Above All Else" group, an image which matches the preferences of those in higher social classes.

Table 7.12: The Relationships Between a Respondent's Family Situation and Preferences for City-wide Policing						
Explanatory Factor	**Everything Equal**	**Traditional Policing**	**Protective Policing- Large Discrimination**	**Protective Policing – Less Discrimination**	**Protective Policing – Domestic Issues**	**Terrorism Above All Else**
Car Ownership						
No	34.11 (32.28-35.94)	17.67 (16.31-19.03)	12.10 (10.79-13.40)	9.09 (8.08-10.11)	11.57 (10.41-12.72)	15.43 (14.09-16.76)
Yes	33.74 (32.45-35.03)	21.83* (20.78-22.88)	6.49* (5.79-7.20)	10.05 (9.29-10.80)	15.30* (14.35-16.24)	12.56* (11.71-13.42)
Home Ownership						
Own/Mortgage	33.76 (32.31-35.20)	21.23 (20.07-22.39)	5.45 (4.73-6.17)	9.44 (8.63-10.25)	16.93 (15.83-18.03)	13.15 (12.19-14.12)
Renting	31.80 (30.22-33.37)	18.63 (17.41-19.86)*	12.30* (11.15-13.46)	10.42 (9.46-11.38)	10.77* (9.79-11.76)	16.05* (14.85-17.24)
Other	54.71* (49.03-60.39)	27.11* (22.34-31.87)	1.84* (0.17-3.51)	3.94* (2.13-5.76)	8.46* (5.31-11.61)	3.90* (2.01-5.79)
Marital Status						
Single	30.08 (28.28-31.87)	16.31 (14.97-17.65)	9.83 (8.62-11.03)	10.40 (8.63-10.27)	13.84 (12.58-15.10)	19.51 (18.03-20.99)
Married/Living as Married	34.88* (33.40-36.35)	22.87* (21.66-24.08)	6.31* (5.52-7.10)	9.45 (8.63-10.27)	14.98 (13.91-16.05)	11.48* (10.55-12.41)
Separated, Widowed or Divorced	36.38* (3.76-39.01)	19.85* (17.82-21.89)	11.35 (9.54-13.16)	9.12 (7.67-10.57)	11.56 (9.89-13.23)	11.70* (10.02-13.38)
Person Under 22 in Household						
No	32.04 (30.64-33.43)	19.19 (18.09-20.28)	10.93 (9.95-11.90)	9.89 (9.07-10.72)	12.63 (11.70-13.57)	15.29 (14.56-16.88)
Yes	35.41* (33.83-36.98)	21.59* (20.33-22.86)	5.05* (4.30-5.81)	9.52 (8.64-10.41)	15.72* (14.56-16.88)	12.67* (11.64-13.71)
Overall n=7135. All explanatory variables as defined in Chapter 3. Figures in brackets are 95% confidence intervals for mean estimates. * indicates significant difference from reference group at 0.05 level.						

Those respondents who neither own nor rent their property (recorded as "Other" under home ownership) appear to hold significantly different policing preferences from other respondents. In particular, they appear more in favour of those preferences mixes which represent a high level of aggregate importance ("Everything Equal" and "Traditional Policing"). As nothing is known about the exact circumstances of those recorded as "Other", it is hard to reach definitive conclusions as to why they may hold these preferences. It is also possible that the results may be a statistical artefact of the outlying nature of a small number of cases (only around 3% of respondents are recorded in this group) rather than highlighting a particular pattern of preferences for policing. Accepting that those who own their own homes are more likely to be in higher social classes, the remaining results concerning home ownership reflect the results in Table 7.11. Similarly, it is likely that those respondents who are living as a

couple, and particularly those who are widowed or separated, will on average be older than those who are single and it is therefore little surprise that the differences in preference between these groups generally reflect those discussed with relation to age.

The preferences of those respondents who have a person aged 22 or under within their household at first glance appear to show a tendency to attach a high level of importance to policing (support for the "Everything Equal" or "Traditional Policing" preference mixes). However, these respondents also have an increased likelihood of appearing in the "Protective Policing – Domestic Issues" class, the group with the lowest aggregate score in Table 5.14. Instead, the common theme running through these preferences mixes are the specific tasks they see as important. Both the "Traditional Policing" and "Protective Policing – Domestic Issues" groups have similar relative preferences, with a wish to see the police address major crimes being combined with an interest in visible patrolling, support for witnesses and victims, and a belief that the police should play an active role in dealing with offenders. Taken as a whole, these preferences show a desire to see the police undertake a strong protective role, focusing on threats close to home, a wish which could be heightened if respondents felt responsible for protection of a young person.

Table 7.13: The Relationships Between A Respondent's Experience of Crime, the Police and Local Surroundings and Preferences for City-wide Policing						
Explanatory Factor	**Everything Equal**	**Traditional Policing**	**Protective Policing- Large Discrimination**	**Protective Policing – Less Discrimination**	**Protective Policing – Domestic Issues**	**Terrorism Above All Else**
Victim of Crime in last 12 Months						
No	33.10 (31.98-34.23)	20.08 (19.19-20.96)	8.72 (8.02-9.42)	9.49 (8.85-10.14)	13.68 (12.90-14.46)	14.90 (14.09-15.71)
Yes	36.34 (33.48-39.20)	21.48 (19.20-23.76)	5.57* (4.15-6.99)	11.15 (9.42-12.89)	16.17 (14.03-18.32)	9.25* (7.65-10.85)
Conflictual Contact with Police in Last 12 Months						
No	33.49 (32.44-34.54)	20.31 (19.47-21.14)	8.31 (7.67-8.95)	9.71 (9.10-10.31)	14.00 (13.26-14.73)	14.15 (13.41-14.89)
Yes	40.05 (28.68-51.43)	16.03 (8.40-23.67)	5.69 (-0.03-11.40)	11.34 (4.24-18.44)	16.88 (8.46-25.30)	9.97 (3.69-16.24)
Fear Crime						
No	33.57 (32.16-34.97)	19.03 (17.95-20.12)	10.18 (9.25-11.11)	10.25 (9.42-11.08)	14.08 (13.10-15.07)	12.85 (11.92-13.79)
Yes	33.45 (31.86-35.03)	21.83* (20.53-23.14)	5.93* (5.09-6.76)	9.05 (8.16-9.94)	13.82 (12.71-14.94)	15.89* (14.70-17.08)
Feel Safe When Out After Dark						
No	36.18 (34.73-37.62)	22.39 (21.22-23.57)	6.30 (5.53-7.07)	8.85 (8.07-9.64)	12.63 (11.66-13.60)	13.62 (12.62-14.61)
Yes	30.57* (29.06-32.08)	17.86* (16.70-19.01)	10.54* (9.51-11.58)	10.71* (9.79-11.64)	15.60* (14.48-16.72)	14.68 (13.60-15.76)
Satisfied with Local Area						
No	36.39 (34.27-38.51)	26.10 (24.28-27.92)	2.77 (2.01-3.54)	8.68 (7.56-9.80)	12.23 (10.84-13.62)	13.79 (12.32-15.27)
Yes	32.61* (31.40-33.82)	18.39* (17.46-19.31)	10.21* (9.40-11.02)	10.09 (9.37-10.80)	14.53* (13.67-15.40)	14.13 (13.28-14.98)
Perceive High Level of Neighbourhood Problems In Local Area						
No	33.25 (31.74-34.77)	16.41 (15.32-17.50)	0.67 (0.41-0.93)	9.28 (8.45-10.11)	18.98 (17.81-20.15)	21.37 (20.14-22.60)
Yes	33.84 (32.39-35.28)	23.98* (22.75-25.21)	15.60* (14.42-16.77)	10.15 (9.28-11.02)	9.25* (8.38-10.13)	7.14* (6.39-7.90)

Overall n=7135. All explanatory variables as defined in Chapter 3. Figures in brackets are 95% confidence intervals for mean estimates.
* indicates significant difference from reference group at 0.05 level.

Table 7.13 considers how an individual's preferences for policing may vary depending on their experience and perceptions of crime. The links between victimisation and policing preferences suggest that those who have been a recent victim of crime are less likely to support the "Protective Policing – Large Discrimination" and "Terrorism Above All Else" preference mixes. Both of these

preference mixes attach relatively less importance to police supporting victims and witnesses and the police's relationship with the public; both roles which are likely to be of increased relevance to a recent victim of crime

All the relationships concerning the impact of having experienced conflictual contact with the police over the last 12 months are insignificant, although this may be due to the relatively small number of respondents who had experienced such events (resulting in very wide confidence intervals for the estimates provided).

Respondents expressing a fear of crime are more likely to favour the "Traditional Policing" preference mix. The policing tasks favoured in this preference mix are those which respondents might believe will most directly protect them from harm and, as such, it seems plausible they would be favoured by someone with an increased fear of crime. Respondents who fear crime have a lower likelihood of appearing in the "Protective Policing – Large Discrimination" group. Taken together with their support for the "Traditional Policing" preference mix, this suggests that, while those who fear crime may wish to see the police concentrate on functions aimed at offering the public greater protection, this is not at the complete expense of the police undertaking other activities. In contrast to the results concerning victimisation, those respondents who fear crime have a significantly increased probability of appearing in the "Terrorism Above All Else" grouping. It has been argued that questions used to measure general fear of crime (along the lines of the question in the PAS questionnaire) may actually measure more general feelings of insecurity and worry, in contrast to an actual concern about victimisation (Farrall and Gadd, 2004). In line with the arguments of Farrall and Gadd, it may be that "fear of crime" reflects concern with security issues such as terrorism as well as any attitude towards more common domestic victimisation. This illustrates how the nature of the indicators available in a second-hand dataset may limit the strength and depth of the interpretation which can be presented.

Those respondents who feel safe when out after dark are less likely to associate with those preference mixes which attach a high overall level of importance to policing ("Everything Equal" and "Traditional Policing"). This fits with the expectation that

those respondents who feel more secure attach lower overall importance to policing, and are more willing to discriminate between functions.

Reflecting the pattern identified at a borough level, those respondents who are satisfied with their local area are less likely to be associated with those preference mixes which attach a higher overall level of importance to policing ("Everything Equal" and "Traditional Policing"), and more in favour of those preference mixes revealing a level of discrimination in the way different policing tasks are rated. This probably reflects how respondents who are generally satisfied with their surroundings will perceive less overall need for policing and will, therefore, be more willing to contemplate some policing functions being considered as low importance.

Finally, those respondents who perceive their local area as suffering a high level of neighbourhood problems have a higher probability of appearing in both the "Traditional Policing" and "Protective Policing – Large Discrimination" groupings. In fitting with the "broken windows" thesis of Wilson and Kelling (1982), it is possible that these respondents see the low-level disorder measured via this explanatory variable as indicative of more serious issues. Their policing preferences reflect a wish to see the police focus on these concerns.

The analysis presented in this section offers support for the expectation that preferences for policing will vary across different sections of society (Hypothesis 3 in Chapter 2). Many of the relationships identified appear to fit with the literature reviewed in Chapter Two in that they suggest a respondent's preferences for policing may represent a response to the threats they believe they face. However, such an explanation does not fit with all the relationships identified. This suggests that the causal mechanisms at play may be more complex than can be captured via a large-scale quantitative study.

7.2.2 Multivariate Analysis

The above analysis offers an insight into how an individual's preferences for city-wide policing vary depending on their personal characteristics. However, as with the

borough level analysis, the impact of the different explanatory factors can be more accurately captured by considering a multivariate model.

The remainder of the analysis in this chapter takes the form of multinomial regression models. These models differ from the analysis presented so far because rather than looking at a respondent's absolute probability of favouring a particular preference mix, they consider the relative likelihood of an individual favouring different preferences mixes compared to a default set of priorities. The advantage of this approach is that the linking of preferences to explanatory characteristics occurs while the LCA classification is being uncovered. This helps to remove measurement error which may be created when explanatory relationships are investigated using post-hoc analysis (Nagin, 2005, pp96-99).

For the analysis of preferences towards city-wide policing, the "Everything Equal" preference mix is considered the default (or reference) category. This choice was made for two reasons. Firstly, this was the single most popular preference mix. Secondly, as this grouping sees all policing tasks as equally important, it represents a useful baseline against which to compare support for the other, more discriminating, preference mixes. Despite the different way in which these models are constructed, their conclusions show strong similarities to the analysis discussed above.

Table 7.14 presents the results of the multinomial models concerned with individual level explanations of preferences for policing. Respondents' probabilities of favouring the "Traditional Policing" preference mix (relative to the "Everything Equal" class) decrease if they are female, have been a victim of crime in the last 12 months, or are satisfied with their local area. However, the relative likelihood of appearing in the "Traditional Policing" group increases if the individual appears in the middle age bands (25-64) or perceives their local area to suffer from a high level of neighbourhood problems. In fitting with earlier analysis, it would seem plausible that female respondents and those who are recent victims of crime will attach greater importance to policing as a whole, and therefore favour the "Everything Equal" preference mix. That support for the "Traditional Policing" preference mix increases amongst those who are dissatisfied with their local area and those who perceive their area to have a high level of neighbourhood problems suggests that these respondents

generally attach a high level of importance to policing, but favour those policing tasks which they see as offering a response to the unease they feel about their surroundings (as opposed to attaching a high level of importance to all policing). Finally, the curvilinear relationship identified with regards to age is similar to that shown in the bivariate analysis and could be seen as supporting the view that the overall of importance attached to policing increases with age. Hence respondents aged 25-64 favour the "Traditional Policing" preference mix while those aged 65 and over are more likely to appear in the "Everything Equal" group.

Most of the factors identified as differentiating between membership of the "Protective Policing – Large Discrimination" group and the "Everything Equal" class are consistent with the bivariate analysis. Membership of the "Protective Policing – Large Discrimination" class appears greater for those in social class C1 or below, and amongst those who have moved within the last twelve months. Membership appears less likely for those who have at least one person under 22 in their household and those who experienced victimisation within the last twelve months.

Support for this preference mix is higher amongst respondents who are satisfied with their local area, who are less fearful of crime and who feel safe when out after dark. These results fit with the expectation that it is those respondents who have less concerns about their surroundings who can be expected to be most willing to discriminate between policing functions, and attach a lower overall importance to policing. However, as with the bivariate results (Table 7.13), a positive relationship exists between a respondent's perception of neighbourhood problems and their support for the "Protective Policing – Large Discrimination" preference mix. This suggests that while general perceptions (i.e. satisfaction with a respondent's local area) may be related to the overall importance attached to policing, experience of identifiable problems (as covered by the questions about neighbourhood problems) may be associated with respondents discriminating between policing tasks as they prioritise police roles which may address their concerns.

Table 7.14 identifies two relationships concerning support for the "Protective Policing – Large Discrimination" preference mix which were not present in the bivariate analysis. It would appear that, when compared to the "Everything Equal" preference

mix, those who favour this preference mix are more likely to be female and aged 25-44. The finding concerning gender could be seen as contrary to much of the work discussed in Chapter Two and the results presented above. So far, it has appeared that women attach greater importance to policing. Such a conclusion would fit with women favouring the "Everything Equal" preference mix over "Protective Policing – Large Discrimination". That female respondents are more likely to favour the "Protective Policing – Large Discrimination" preference mix suggests that when women do differentiate between policing tasks, they place a strong emphasis on the protective role of the police. The relationship involving respondents aged 25-44 may reflect a similar logic to those results linking middle age respondents to membership of the "Traditional Policing" preference mix discussed earlier, i.e. those in the middle of the age distribution favour policing focussing on a protective role before moving on to attach greater importance to policing in general.

Table 7.14: Respondent Level Explanatory Factors Relating to Differences in Preferences for City-wide Policing ("Everything Equal" Group Used as Reference Category)

	Traditional Policing	Protective Policing- Large Discrimination	Protective Policing – Less Discrimination	Protective Policing – Domestic Issues	Terrorism Above All Else
Female	-0.204 (-2.581)	0.205 (2.652)		-0.124 (-2.047)	-0.242 (-3.935)
Aged 25-44	0.262 (2.767)	0.445 (3.248)			
Aged 45-64	0.358 (3.483)				-0.597 (-2.965)
Aged 65+			-0.428 (-2.432)	-0.312 (-2.047)	-1.208 (-4.708)
Black Ethnicity			-0.337 (-2.024)		
Social Classes C1C2		1.790 (7.249)		0.702 (4.907)	
Social Classes DE		2.247 (6.654)			0.872 (3.737)
Having Person Under 22 in Household		-1.153 (-8.973)	-0.354 (-3.721)		-0.715 (-4.234)
Victim of Crime in last 12 Months	-0.261 (-1.991)	-0.621 (-2.293)			-0.645 (-2.622)
Living in Local Area for Less Than 1 Year		1.125 (6.263)	-0.466 (-2.312)	-0.554 (-2.726)	-0.950 (-4.145)
Fear Crime		-0.548 (-5.030)		0.307 (2.982)	0.728 (5.624)
Feel Safe When Out After Dark		0.783 (4.753)	0.449 (3.683)	0.307 (2.652)	
Satisfied with Local Area	-0.254 (-2.795)	1.751 (9.439)			
Perceive High Level of Neighbourhood Problems In Local Area	0.486 (2.295)	4.127 (6.140)		-0.729 (-3.202)	-1.533 (-6.392)

n=7171. All explanatory variables as defined in Chapter 3. t-statistics given in brackets. All variables significant at at least a 0.05 level. Blank cells refer to variables which were not significant at the 0.05 level.

As suggested by the bivariate analysis, support for the "Protective Policing – Less Discrimination" preference mix is more likely amongst those who feel safe when out after dark. Table 7.14 suggests that support for the "Protective Policing – Less Discrimination" preference mix is less likely amongst respondents aged 65 or over, and those who have someone aged under 22 in their household. Neither of these factors appeared significant in the bivariate analysis. However, both were significant

predictors of support for the "Everything Equal" preference mix. Therefore, it is possible that the presence of these variables within this model reflects the reference group employed. This is a downside of a multinomial based model. This explanation is supported by the way in which identical relationships appear in several other models within Table 7.14.

The use of the "Everything Equal" preference mix as the reference category may also help explain why support for the "Protective Policing – Less Discrimination" preference mix is less prevalent amongst those who have lived in their current area for less than twelve months. As noted earlier, respondents who have recently moved may feel less integrated into their community, and therefore be less certain about the nature of their locality or the strength of any informal social controls. One response to this uncertainty could be to attach a higher aggregate level of importance to policing (hence their preference for the "Everything Equal" mix). Finally, Table 7.14 suggests that Black respondents are more likely to appear in the "Protective Policing – Less Discrimination" class compared the "Everything Equal" group. This is the only appearance of ethnicity in this table, a factor which also appeared largely insignificant in Table 7.11. It is hard to explain why this one relationship with ethnic group is significant whereas all others are insignificant.

Those factors identified in Table 7.14 as distinguishing between support for the "Protective Policing – Domestic Issues" preference mix and the "Everything Equal" group are broadly consistent with the bivariate analysis. Given that the "Everything Equal" class (the class that attaches the highest overall importance to policing) is used as the reference group, it is little surprise that the model includes negative coefficients associated with female respondents and those aged 65 or over. The finding that this mix of policing priorities is popular amongst respondents from the middle classes reflects the bivariate results, and adds weight to the view that the tasks prioritised in this preference mix may resonate with the particular concerns of this section of society.

Support for the "Terrorism Above All Else" preference mix is more likely amongst respondents who perceive less threat from everyday crime, a finding consistent with the expectations discussed previously. Hence, appearing in this class is less likely if a

respondent is female, older (aged 45 and over), has been victimised in the last 12 months, has lived in an area for less than 12 months, believes their area has a high level of neighbourhood problems, or comes from a household which includes at least one member aged under 22. In line with the bivariate results, the probability of favouring this preference mix increases for respondents who come from social classes D and E (possibly as a response to disquiet with day-to-day policing). The finding that those respondents who express a "fear of crime" favour this preference mix also persists from the bivariate results.

7.3 Integrating Borough Level and Individual Level Explanations of Preferences for City-wide Policing

Table 7.15 completes this chapter by adding borough level factors to the models in Table 7.14. These models aim to establish if neighbourhood characteristics have a role in shaping policing preference after differences between individuals are controlled for.

Table 7.15a shows the respondent level factors which remain significant when both individual and borough level variables are included in the model. Adding borough level factors to the models causes several of the previously identified individual level explanatory factors to no longer appear significant. The majority of these factors relate to an individual's perception of their criminological context (for instance their fear of crime or general satisfaction with their local area). There is every reason to believe that an individual's response to these questions will be related to the type of area they live in, and, as such, it could be expected that including measures of neighbourhood characteristics may well cause some of these individual measures to appear less important.

Table 7.15b shows the borough level factors associated with an individual favouring a particular preference mix once respondent characteristics are controlled for. Those respondents who favour the "Traditional Policing" preference mix come from areas where people feel less safe after dark and areas with a higher proportion of middle class residents (C1 and C2). The first of these findings suggests that in an area where

people feel less safe they may express more of a preference for those policing tasks concerned with protective policing and the successful running of the criminal justice system, rather than simply attaching a blanket high level of importance to all policing tasks.

The significant relationship between the proportion of a borough's population in social classes C1 and C2 and membership of "Traditional Policing" preference group is interesting as it was not revealed in the previous borough level analysis. Referring back to Table 7.8 suggests that membership of the "Traditional Policing" group may be inversely related to the average social class of a borough (there is a significant negative relationship with the proportion in classes A and B). It is possible that many of the characteristics which can be proxied by a borough's social make-up are now captured by the other variables within the multivariate model (for instance the type of people who live in the area or the nature of the borough in terms of perceptions of low-level disorder). However, it may be that while these additional variables capture the nature of "well-off" or "very poor" boroughs, the nature of middle class areas is less well accounted for. If this is the case then the social class variable could be considered a proxy for other factors which are significantly related to policing preference but are not considered in this analysis.

The borough level factors identified as increasing the probability of a respondent appearing in either of the "Protective Policing – Large Discrimination", "Protective Policing Less Discrimination" or "Protective Policing – Domestic Issues" groups all suggest that membership of these classes is more likely amongst respondents from "good" areas, e.g. better levels of resident satisfaction and lower levels of perceived neighbourhood problems. This supports the earlier suggestion that it is those respondents whose surroundings present less evidence of immediate problems who are most likely to discriminate between policing tasks. Similarly, membership of the "Protective Policing – Domestic Issues" class appears to fall in areas with a high level of population turnover. This can be seen as fitting with the arguments of Sampson and Groves (1989) that high population turnover may be associated with a break down in informal social controls. This, in turn, may cause an increase in the importance attached to policing in general (represented through support for the

"Everything Equal" preference mix) as individuals seek an increase in formal criminal justice measures.

Membership of the "Terrorism Above All Else" group is associated with living in areas which have a lower perceived level of neighbourhood problems and a lower prevalence of victimisation; these factors appear significant despite their respondent level counterparts also appearing in the model. As discussed previously, it is likely that respondents living in such areas will feel less direct threat from more traditional crime and so perceive less need for policing which focuses on domestic day-to-day concerns.

Table 7.15a: Respondent Level Explanatory Factors Relating to Differences in Preferences for City-wide Policing in a Clustered Multilevel Model ("Everything Equal" Group Used as Reference Category)

	Traditional Policing	**Protective Policing- Large Discrimination**	**Protective Policing – Less Discrimination**	**Protective Policing – Domestic Issues**	**Terrorism Above All Else**
Individual Level					
Female				-0.171 (-2.952)	-0.238 (-3.363)
Aged 25-44	0.348 (3.314)	0.459 (3.3040			
Aged 45-64	0.409 (3.359)				-0.667 (-4.152)
Aged 65+			-0.381 (-2.739)	-0.404 (-3.130)	-1.270 (-7.179)
Social Classes C1C2		1.611 (3.628)		0.489 (4.664)	
Social Classes DE		2.205 (4.262)			1.445 (12.062)
Having Person Under 22 in Household		-1.041 (-6.916)	-0.240 (-2.924)		-0.626 (-3.720)
Victim of Crime in last 12 Months		-0.818 (-2.820)			-0.434 (-2.586)
Living in Local Area for Less Than 1 Year		1.254 (5.987)			
Fear Crime		-0.527 (-4.312)			0.760 (5.416)
Satisfied with Local Area		1.490 (6.528)			
Perceive High Level of Neighbourhood Problems In Local Area	1.411 (5.111)	4.330 (5.929)		-0.432 (-2.121)	-0.731 (-2.838)

n=7171. All explanatory variables as defined in Chapter 3. t-statistics given in brackets. All variables significant at at least a 0.05 level. Blank cells refer to variables which were not significant at the 0.05 level.

Table 7.15b: Borough Level Explanatory Factors Relating to Differences in Preferences for City-wide Policing in a Clustered Multilevel Model ("Everything Equal" Group Used as Reference Category)					
	Traditional Policing	**Protective Policing- Large Discrimination**	**Protective Policing – Less Discrimination**	**Protective Policing – Domestic Issues**	**Terrorism Above All Else**
Borough Level					
Proportion of Population in Social Classes C1 and C2	0.993 (2.452)				
Proportion of Respondents who Have Been of Crime in the Last 12 Months					-1.889 (-2.621)
Proportion of Respondents who have Lived in Area for Less Than 1 Year				-0.481 (-2.310)	
Proportion of Respondents Experiencing Higher than Average Neighbourhood Problems			-0.360 (-3.003)		-0.882 (-2.465)
Proportion of Respondents Satisfied with Local Area		1.981 (5.470)		0.315 (2.278)	
Proportion of Respondents who Feel Safe When Out After Dark in Local Area	-2.240 (-3.486)				
n=7171. All explanatory variables as defined in Chapter 3. t-statistics given in brackets. All variables significant at at least a 0.05 level. Blank cells refer to variables which were not significant at the 0.05 level.					

7.4 Conclusions

The results presented in this Chapter suggest that the characteristics of a respondent's home borough play a role in shaping their preferences for city-wide policing. There appears to be evidence of geographical clustering of preferences across London. In general, it would seem that those preference mixes which involve respondents attaching the greatest overall importance to policing are more prevalent towards the east of the city. Correlations and regression models using borough level data suggest that differences in a borough's "average" preferences for policing can, to some extent,

be explained by the nature of the borough. For instance, those respondents who attach an equal, and generally high, level of importance to all tasks are more likely to come from boroughs with a higher level of perceived neighbourhood problems. Although many of the relationships identified appear consistent with expectations outlined in Chapter Two, the r-squared values associated with the borough level regression models suggest that the factors considered may play a relatively small role in shaping policing preference. It should be noted that it is the area measures concerning neighbourhood problems and perceptions of safety which are most often identified as influencing preferences for policing rather then those concerning the socio-demographic composition of a borough.

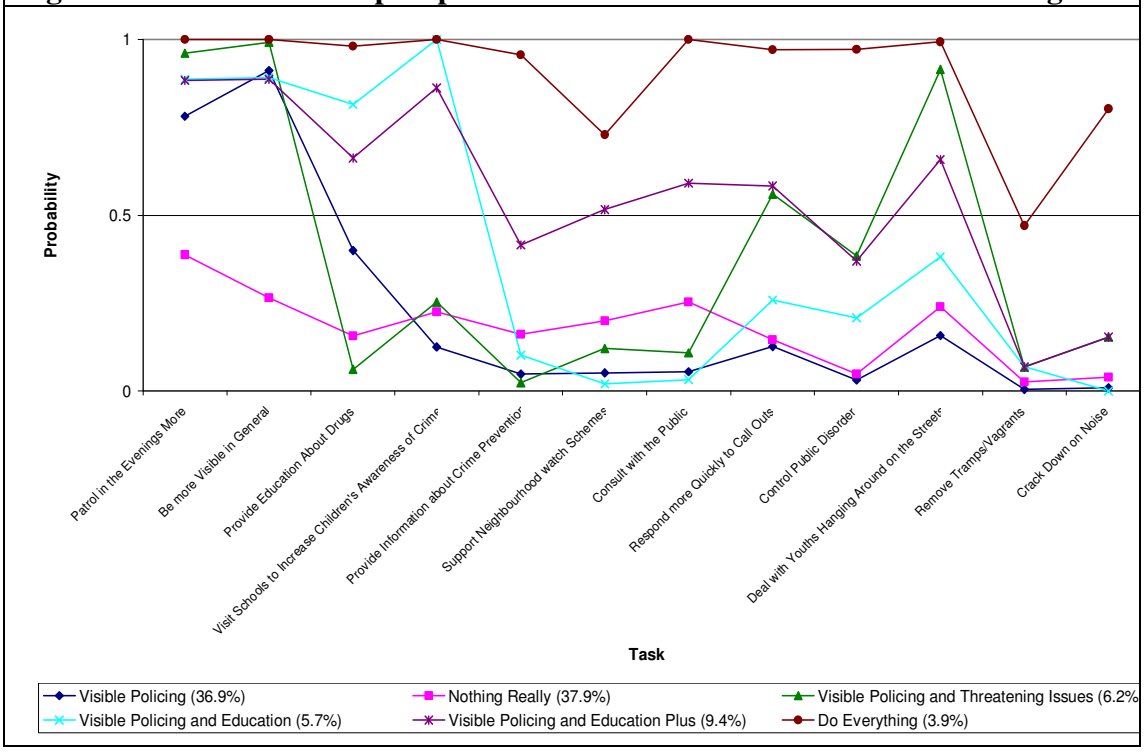
The analysis linking preferences for city-wide policing to the characteristics of individual respondents suggests that different groups within society hold different preferences (Hypothesis 3 in Chapter 2). Again, several of the relationships identified are consistent with the findings of previous research. For instance, those respondents who are female, or in older age groups, appear to attach more overall importance to policing, as do those who feel less safe when out after dark. Although several indicators of an individual's socio-demographic status appear as significant predictors of policing preference, it is once again those factors concerning issues of victimisation and perceptions of threat which appear the strongest predictors.

When integrating both individual and borough level predictors in a single model, several borough level factors appear significant. This suggests that an individual's preference for city-wide policing may be influenced by the nature of the area in which they live, even when controlling for the characteristics of the individual respondents, a finding which supports Hypothesis Four in Chapter Two.

CHAPTER 8: EXPLANATIONS OF DIFFERENCES IN PREFERENCES FOR LOCAL POLICING

The analysis in this chapter follows the pattern of Chapter Seven, but considers respondents' preferences for policing in their local area (shown in Figure 8.1 and developed in Chapter 6).

Figure 8.1: LCA Six Group Representation of Preferences for Local Policing



8.1 Borough Level Explanations of Preferences for Local Policing

Table 8.1 provides descriptive statistics of preferences for local policing at the borough level (created by aggregating individual preferences within each borough). The average coefficient of variation for the distributions shown in Table 8.1 is 0.54 in contrast to 0.97 in Table 7.1. Taken together with the range of the different distributions, this suggests pockets of extreme preference may be less common with regards to local policing. This point is also supported by the box-plots (Figure 8.2) which show that the borough level distributions associated with preferences for local policing are much less skewed than those involving city-wide policing (Figure 7.1). Notably, only two boroughs appear as outliers in contrast to ten in the previous chapter. However, these results do not mean that there is no variation in preferences

for local policing between boroughs. For instance, the mean probability of a respondent favouring the "Nothing Really" preference mix ranges from 10.57% in Bromley to 62.68% in Southwark.

Table 8.1: Descriptive Statistics of Preferences for Local Policing at a Borough Level

Policing Preference	Mean	Standard Deviation	Maximum	Minimum
Nothing Really	38.34%	15.04	62.68	10.57
Visible Policing	37.19%	7.72	53.50	22.06
Visible Policing and Education	5.61%	3.92	13.88	0.27
Visible Policing and Education Plus	9.17%	7.00	22.79	0.32
Visible Policing and Threatening Issues	6.01%	5.45	19.17	0.29
Do Everything	3.67%	3.84	13.53	0.00

n=32.

Figure 8.2: Boxplot of Borough Level Mean Probabilities of Support for Different Preference Mixes Relating to Local Policing

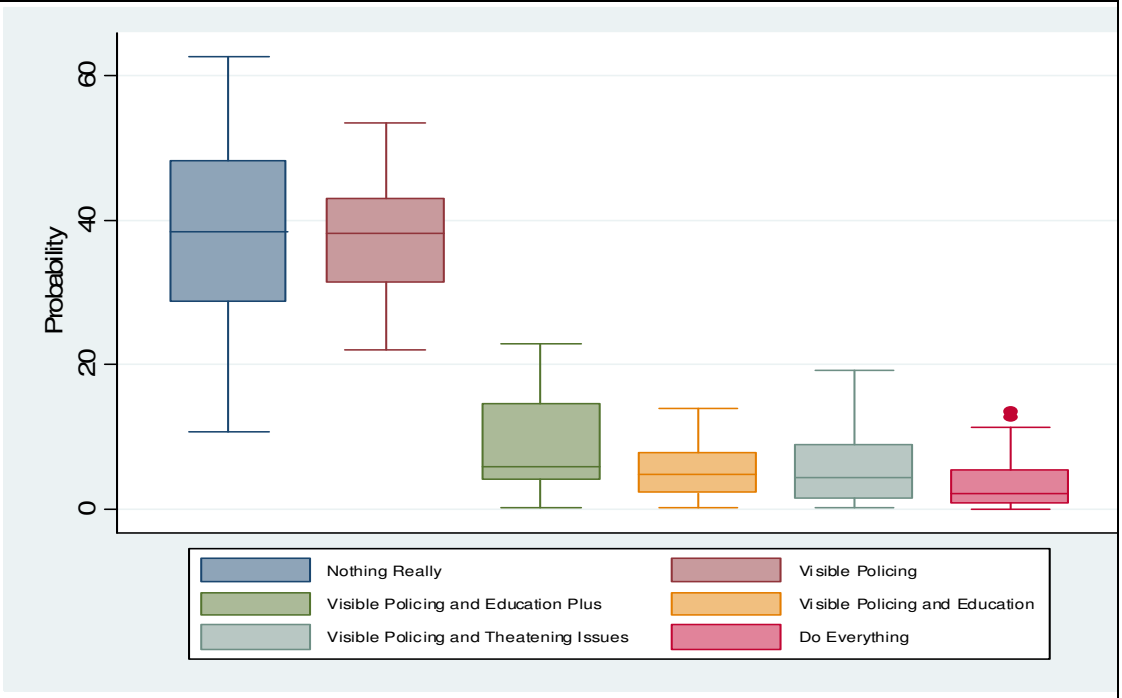


Table 8.2 shows how the probability of appearing in one preference group is related to all other preference groups at a borough level. As in the previous chapter, non-parametric correlations are employed because of the small sample size involved. The strongest relationship in Table 8.2 suggests a substantial overlap in support for the "Do Everything" and "Visible Policing and Threatening Issues" preference mixes. This is interesting because these two preferences mixes involve respondents who favour very different levels of policing in their local area (Table 6.7). However, those tasks prioritised within the "Visible Policing and Threatening Issues" preference mix suggest a wish for responsive problem-orientated policing. Therefore, it may be the case that in boroughs where respondents perceive a large role for the police in addressing problems, some respondents react by favouring a high level of policing in general while others respond in a more selective, or focussed, way. Support for the "Do Everything" and "Visible Policing and Threatening Issues" preferences mixes generally appears more likely in boroughs which also favour the "Visible Policing and Education" and "Visible Policing and Education Plus" preference mixes. In contrast, there is an inverse relationship between a borough's support for the above preference mixes and its attitude towards the "Nothing Really" and "Visible Policing" preference

mixes. This suggests a split exists between boroughs where respondents wish to see the police prioritise relatively few functions (a high probability of membership in the "Nothing Really" or "Visible Policing" classes) and those boroughs associated with a higher aggregate wished-for level of policing (a higher likelihood of respondents appearing in the other four groups). While positive, the correlation between support for the "Nothing Really" and "Visible Policing" preference mixes is statistically insignificant suggesting that these two preference groupings, which can be seen as representing a relatively low wished-for level of local policing, may be concentrated in different areas.

Table 8.2: Spearman Rho Correlations of Preferences for Local Policing at Borough Level

Policing Preference	Nothing Really	Visible Policing	Visible Policing and Education	Visible Policing and Education Plus	Visible Policing and Threatening Issues	Do Everything
Nothing Really	1.00					
Visible Policing	.171	1.00				
Visible Policing and Education	-.732**	-.056	1.00			
Visible Policing and Education Plus	-.819**	-.556**	.554**	1.00		
Visible Policing and Threatening Issues	-.850**	-.341	.446*	.767**	1.00	
Do Everything	-.788**	-.506**	.335	.832**	.889**	1.00

n=32. ** significant at 0.01 level. * significant at 0.05 level.

8.1.1 Geographical Distribution of Preferences

Figures 8.3-8.8 show the distribution of preferences for local policing across London. In line with the patterns identified in Chapter Seven, these maps hint at an East-West split in preferences for policing. As with preferences for city-wide policing, those preference mixes which are associated with a wish to see greater amounts of policing appear more prevalent towards the east of the city.

Figure 8.3 shows those boroughs most likely to have respondents in the "Nothing Really" preference group. This map reveals a bias towards these respondents living in the west of city. However, it should be noted that the areas with highest prevalence of membership in this class can be split in two with one cluster in the north-west (encompassing Harrow, Brent and Barnet) and a further cluster (involving Southwark and Lambeth) towards the centre of the city. This finding suggests that support for this preference mix is not simply a function of differences between inner-city areas and more peripheral residences.

Figure 8.4 shows the probability of respondents favouring the "Do Everything" preference mix (those individuals indicating a desire for the highest level of local policing). Support for this preference mix is concentrated to the east of the city, particular the south-east, around the boroughs of Bexley, Bromley, Croydon and Greenwich. Although, the prevalence of this preference mix within the borough of Hackney once again suggests that there is not a simple inner-city verses suburban split.

Although still showing evidence of an East-West split, the geographical distribution of support for the "Visible Policing" preference mix is the most unstructured of those considered in this chapter (Figure 8.5). A western bias would appear to exist with this preference mix appearing popular in Westminster, Hammersmith, Ealing, Hounslow and Wandsworth. However, this pattern is to some extent counteracted by the similar levels of support in the boroughs of Enfield and Havering.

Figure 8.3: The Geographical Distribution of Membership in the "Nothing Really" Preference Mix for Local Policing[27]

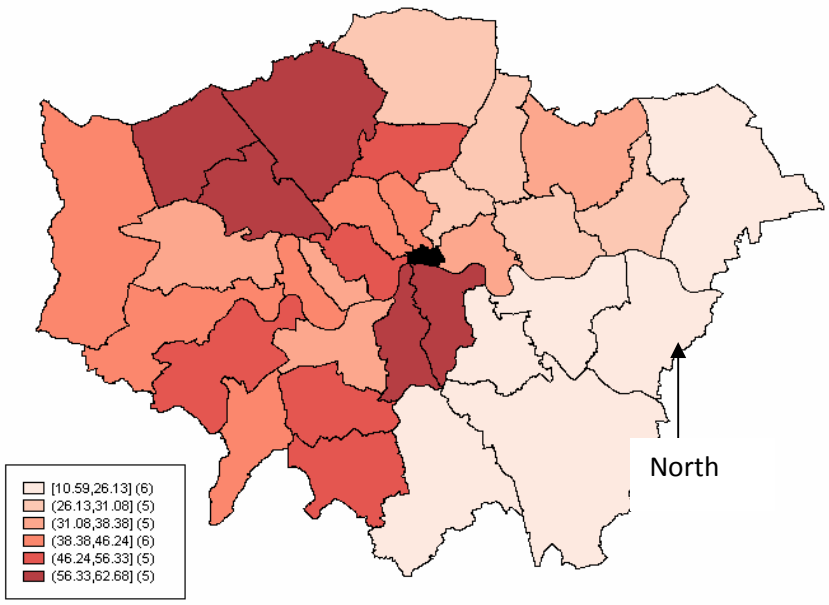
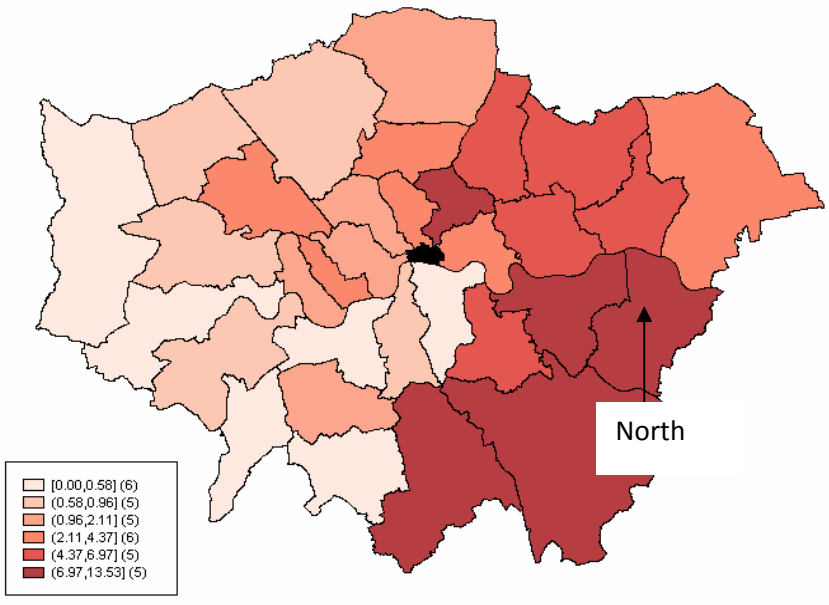


Figure 8.4: The Geographical Distribution of Membership in the "Do Everything" Preference Mix for Local Policing



[27] These maps should be interpreted in the same way as those presented in Chapter Seven. Areas of dark red represent increased support for a particular preference mix, with details of actual percentage support given in the legend.

Figure 8.5: The Geographical Distribution of Membership in the "Visible Policing" Preference Mix for Local Policing

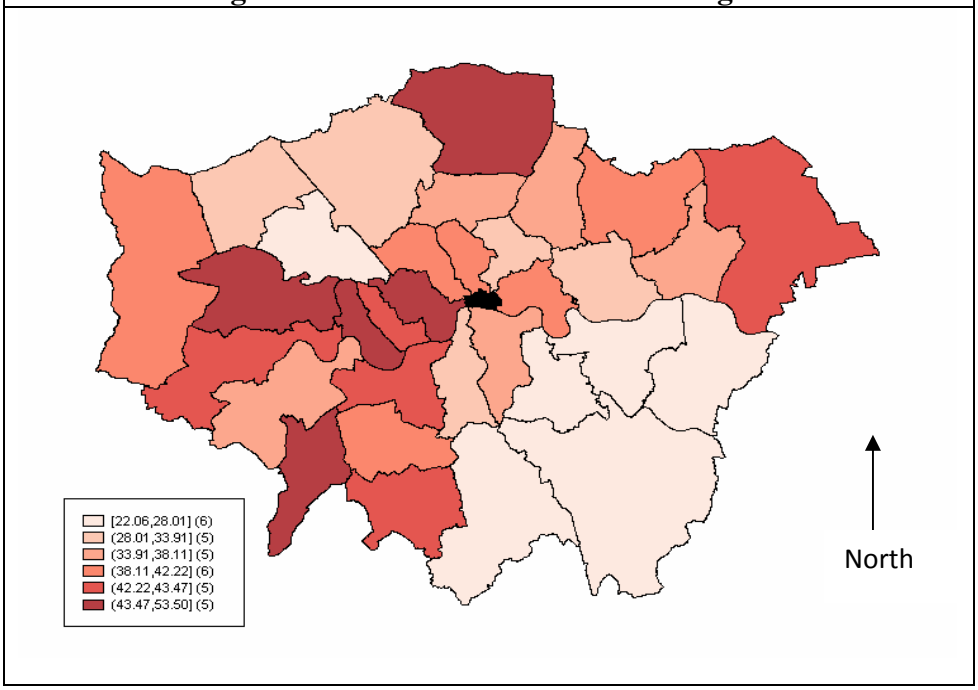


Figure 8.6: The Geographical Distribution of Membership in the "Visible Policing and Education" Preference Mix for Local Policing

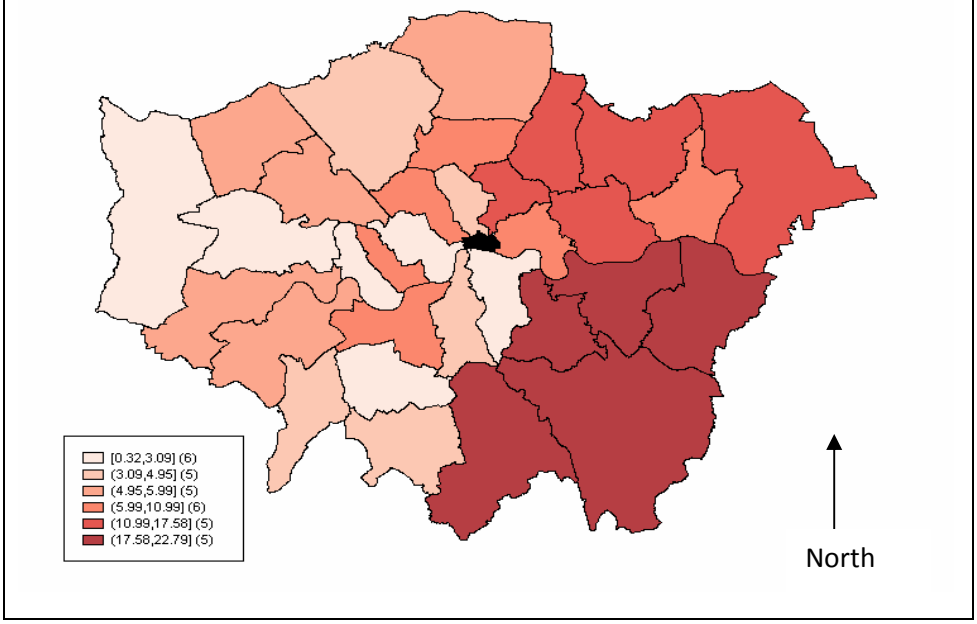


Figure 8.7: The Geographical Distribution of Membership in the "Visible Policing and Education Plus" Preference Mix for Local Policing

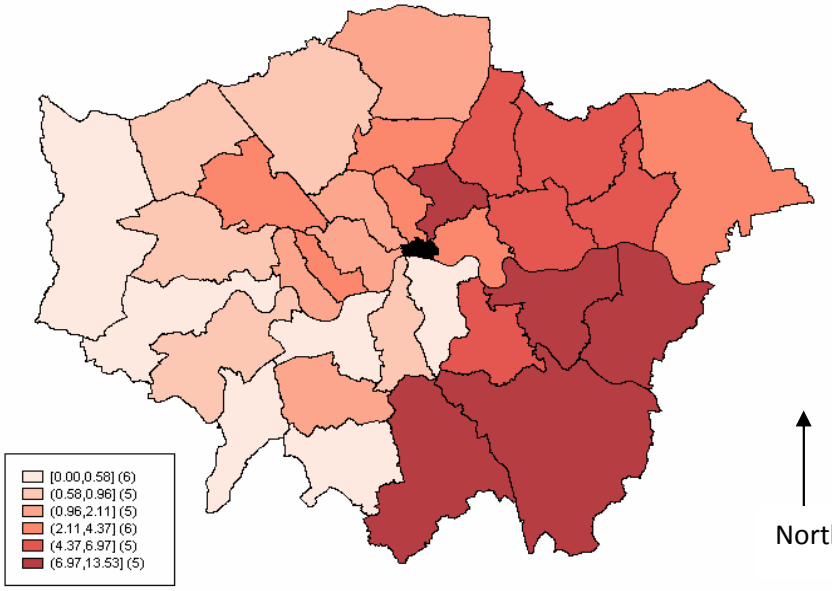
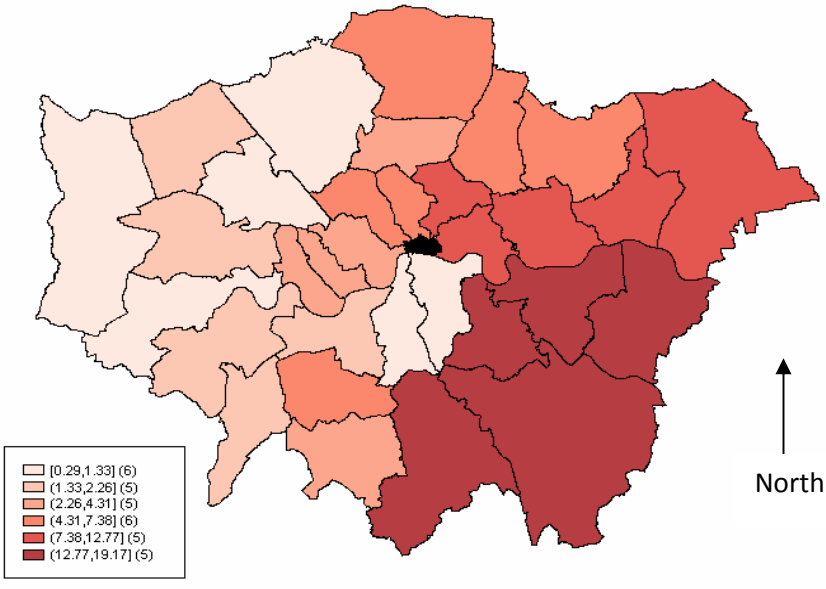


Figure 8.8: The Geographical Distribution of Membership in the "Visible Policing and Threatening Issues" Preference Mix for Local Policing



The distributions of support for the "Visible Policing and Education", "Visible Policing and Education Plus" and "Visible Policing and Threatening Issues" preference mixes broadly mirror that of the "Do Everything" class. Membership of these groups appears most prevalent in the south-east of the city (around Bromley, Bexley, Greenwich, Lewisham and Croydon). A second cluster of boroughs in the north-east (encompassing areas like Redbridge, Newham, Barking and Waltham Forest) commonly includes areas with the second highest probability of supporting these preference mixes.

Table 8.3 considers how the average probability of membership in the different preference groups varies depending on a borough's location within London, providing a statistical measure of the distributions identified in Figures 8.3-8.8. As was the case with preferences for city-wide policing (Chapter 7), these results suggest East-West differences are present, but that there is no discernable pattern with regards to North-South differences, or a borough's distance from central London.

Table 8.3: Spearman Rho Correlations of Local Policing Preference at a Borough Location

Policing Preference	**West to East**	**South to North**	**Distance From Centre**
Nothing Really	-.677**	.061	-.129
Visible Policing	-.368*	.084	.038
Visible Policing and Education	.206	-.228	.314
Visible Policing and Education Plus	.682**	.040	.080
Visible Policing and Threatening Issues	.785**	-.052	-.079
Do Everything	.762**	.136	-.142

n=32. ** significant at 0.01 level. * significant at 0.05 level.

8.1.2 The Relationship between Preferences for City-wide and Local Policing at a Borough Level

Table 8.4 shows the relationship between a borough's support for different local policing priorities and preferences for city-wide policing. The relationships identified in Table 8.4 broadly match those found at an individual level (Table 6.12). For instance, those boroughs associated with respondents favouring the "Do Everything" preference mix for local policing are linked with respondents favouring the "Everything Equal" and "Traditional Policing" preference mixes for city-wide policing. The relationships identified at the borough level are substantially stronger than those found in Chapter Six. This is most likely symptomatic of the tendency of aggregating data to smooth out measurement error at the individual level (Blakely and Woodward, 2000). Table 8.4 suggests there is a strong overlap in support for the local level preference mix "Nothing Really" and membership of the city-wide preference mix "Terrorism Above All Else". This supports the argument made in the previous chapter that it is those respondents who see less need for the police to undertake day-to-day policing tasks who are most willing to see them concentrate on more diffuse threats like terrorism.

From these findings, it seems that respondents who hold similar policing preferences may live in particular areas. Although care must be taken to avoid making definitive statements based on descriptive aggregate level results, these findings offer support for the hypothesis developed in Chapter Two that preferences for policing vary between areas.

Table 8.4: Spearman Rho Correlations of Preferences for City-wide and Local Policing at a Borough level						
Policing Preference	**Everything Equal**	**Traditional Policing**	**Protective Policing- Large Discrimination**	**Protective Policing – Less Discrimination**	**Protective Policing – Domestic Issues**	**Terrorism Above All Else**
Nothing Really	-.667**	-.762**	.133	.556**	.490**	.846**
Visible Policing	-.465**	-.355*	.641**	.608**	.334	.314
Visible Policing and Education	.354*	.303	.174	-.258	-.327	-.676**
Visible Policing and Education Plus	.732**	.640**	-.335	-.648**	-.436*	-.808**
Visible Policing and Threatening Issues	.736**	.858**	-.374*	-.542**	-.489**	-.715**
Do Everything	.728**	.810**	-.401*	-.579**	-.349	-.676**
n=32. ** significant at 0.01 level. * significant at 0.05 level.						

8.1.3 Bivariate Analysis

As with city-wide policing, a cursory glance at the geographical distribution of attitudes towards local policing suggests that boroughs which exhibit similar policing priorities often cluster together. This raises the prospect that preferences for local policing could be related to the conditions in different areas of London. Tables 8.5-8.10 present correlations between the average probability of a respondent supporting each preference mix (aggregated to a borough level) and various indicators of the

nature of a borough. Repeating the approach in Chapter Seven, both parametric and non-parametric correlations are presented and the accompanying discussion will focus on those relationships which are found to be significant in both types of test. Reflecting the fact that the distributions in Figure 8.2 are close to being normally distributed, there is near perfect agreement between the results of the Pearson and Spearman correlations.

Table 8.5 links preferences for local policing to the way in which a borough is perceived by its residents. Support for the "Nothing Really" preference mix is associated with living in well perceived areas (positive relationships to the proportion of people satisfied with their local area and the proportion of respondents who feel safe when out after dark, along with a negative relationship with perceptions of neighbourhood problems). This finding fits with the expectation that respondents who live in boroughs with low levels of disorder (or are perceived as such) will identify less need for local policing. No significant relationship is identified between fear of crime and support for this preference mix. This finding adds weight to the view that perceptions of policing may relate to its wider symbolic role rather than being driven exclusively by perceptions of crime.

Support for the "Visible Policing" preference mix also appears greater in areas where residents hold positive perceptions of their surroundings (positive relationship with the proportion of residents who are satisfied with their local area and the proportion of respondents who feel safe when out after dark, along with an inverse relationship with fear of crime). At first glance, this result appears counterintuitive because it might be expected that respondents from areas associated with greater feelings of insecurity would see visible policing as a means to address these concerns. However, the literature reviewed in Chapter Two suggests that foot patrolling gathers support from a particularly wide spectrum of the population, possibly for symbolic reasons. This may mean that support for "Visible Policing" is seen by some respondents as a default starting position. If this is the case, then it would be expected that patterns of support for the "Visible Policing" preference mix will be similar to those for the "Nothing Really" mix.

Support for the "Visible Policing and Education Plus", "Visible Policing and Threatening Issues" and "Do Everything" preference mixes is associated with boroughs that have a higher perceived level of neighbourhood problems, where respondents feel less safe after dark, are more fearful of crime, and are less satisfied with their local area. This suggests that these preference mixes may be more popular in areas where a sense of insecurity, or fear of disorder, increases the perceived need for the policing.

Support for the "Visible Policing and Education" preference mix bucks the trend of Table 8.5 in that only one of its correlations achieves significance. This correlation suggests support for this preference mix is greater in boroughs where residents identify a high level of neighbourhood problems. One speculative explanation for this finding is that many of the "neighbourhood problems" within the PAS questionnaire are often associated with young people. Support for the "Visible Policing and Education" preference mix may therefore reflect a wish to see the police interact with young people to reduce these problems. In contrast, a wider concern about safety and crime (as indicated by some of the other perception indicators) is needed to see respondents prefer more general policing, or focus on "more serious" issues, signified by membership of the "Visible Policing and Education Plus", "Visible Policing and Threatening Issues" and "Do Everything" preference mixes.

Table 8.6 suggests that variation between boroughs in terms of preferences for local policing is not related to differences in the level of crime or the level of conflictual police activity. Taken together with the results in Table 8.5, this provides strong support for the view that preferences for policing are influenced much more by perceptions of security and disorder than they are by actual differences in levels of criminality.

Table 8.5: Correlations Between Preferences for Local Policing and Indicators of Neighbourhood Perceptions at a Borough Level

	Nothing Really	Visible Policing	Visible Policing and Education	Visible Policing and Education Plus	Visible Policing and Threatening Issues	Do Everything
Proportion of Respondents Experiencing Higher than Average Neighbourhood Problems	-.755** (-.798**)	-.244 (-.260)	.705** (.746**)	.704** (.757**)	.592** (.585**)	.605** (.538**)
Proportion of Respondents Satisfied with Local Area	.413* (.444*)	.594** (.630**)	-.177 (-.123)	-.637** (-.610**)	-.576** (-.536**)	-.653** (.616**)
Proportion of Respondents who Fear Crime in Local Area	-.188 (-.171)	-.651** (-.692**)	.115 (.005)	.517** (.456**)	.355* (.251)	.482** (.400**)
Proportion of Respondents who Feel Safe When Out After Dark in Local Area	.461** (.451**)	.713** (.810**)	-.316 (.234)	-.722** (-.679**)	-.632** (-.501**)	-.704** (-.648**)

n=32. All explanatory variables as defined in Chapter 3. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. Spearman correlations in brackets.

Table 8.6: Correlations Between Preferences for Local Policing and Indicators of Crime and Conflict with the Police at a Borough Level

	Nothing Really	Visible Policing	Visible Policing and Education	Visible Policing and Education Plus	Visible Policing and Threatening Issues	Do Everything
Proportion of Respondents who have Experienced Conflictual Contact with the Police	-.272 (-.184)	-.087 (.035)	.365* (.300)	.224 (.102)	.220 (.204)	.147 (.155)
Proportion of Respondents who Have Been a Victim of Crime in the Last 12 Months	-.070 (-.235)	.028 (.003)	-.059 (.087)	.108 (.289)	.007 (.284)	.070 (.328)

n=32. All explanatory variables as defined in Chapter 3. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. Spearman correlations in brackets.

The overriding conclusion to be derived from Table 8.7 is that preferences for local policing do not vary significantly depending on the ethnic structure of a borough's population. This mirrors the findings with regards to city-wide policing discussed in the previous chapter. The only relationships to achieve significance in both types of correlation concern the proportion of a borough's population who are not in one of the three major ethnic groups. An increase in proportion of the population recorded as "Other" is associated with greater support for the "Nothing Really" preference mix, and a fall in support for the "Visible Policing and Education Plus" and "Visible

Policing and Threatening Issues" preference mixes. While the diverse nature of those who are classified as "Other" means it is not possible to provide a definitive explanation for this finding, it is interesting to note that both here and in Chapter Seven an increase in the proportion of a borough's population who are not part of the three main ethnic groups is accompanied by an apparent wish to see less policing; a finding which may merit further in-depth investigation. One explanation which may be worthy of consideration is that smaller less salient ethnic groups see high levels of policing as directed at the needs of the major ethnic groups, and their preferences reflect a belief that such policing is not in their interests.

Table 8.7: Correlations Between Preferences for Local Policing and Ethnicity at a Borough Level

	Nothing Really	Visible Policing	Visible Policing and Education	Visible Policing and Education Plus	Visible Policing and Threatening Issues	Do Everything
Proportion of Population in Asian Ethnic Groups	.127 (.167)	.084 (.066)	-.175 (-.083)	-.066 (-.060)	-.195 (-.197)	-.092 (-.069)
Proportion of Population in Black Ethnic Groups	.125 (.010)	-.330 (-.279)	-.198 (.180)	.151 (..086)	-.037 (.014)	.151 (.229)
Proportion of Population in White Ethnic Groups	-.228 (-.219)	.104 (.176)	.289 (.357*)	.021 (.034)	.229 (.184)	.027 (-.044)
Proportion of Population in Other Ethnic Groups	.427* (.434*)	.144 (.140)	-.330 (-.344)	-.386* (-.391*)	-.437* (-.350*)	-.300 (-.213)
Ethnic Homogeneity	-.238 (-.206)	.099 (.177)	.286 (.359*)	.031 (.021)	.249 (.169)	.033 (-.061)

n=32. All explanatory variables as defined in Chapter 3. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. Spearman correlations in brackets.

Table 8.8 suggests that preferences for local policing generally do not vary in relation to a borough's age structure. The exceptions to this pattern are those relationships concerning the proportion of a borough's population who are aged 25 to 44. Where the proportion of the population aged 25 to 44 is high, it seems respondents are more

likely to favour the "Nothing Really" preference mix at the expense of the "Visible Policing and Education" and "Visible Policing and Education Plus" groups. Given that there is no discernable pattern across other age groups, this finding is difficult to explain. One possibility is that the finding is spurious; it may reflect the fact that respondents aged 25-44 may live in particular areas of London and that other characteristics of these areas are influencing preferences for policing. Age structure would, in that case, be a proxy indicator for other factors.

Table 8.8: Correlations Between Preferences for Local Policing and Indicators of a Borough's Age Structure

	Nothing Really	Visible Policing	Visible Policing and Education	Visible Policing and Education Plus	Visible Policing and Threatening Issues	Do Everything
Proportion of Population Aged 24 and Under	-.177 (-.204)	-.229 (-.353*)	.032 (.056)	.319 (.348)	.182 (.145)	.284 (.317)
Proportion of Population Aged Between 25 and 44	.372* (.376*)	.177 (.190)	-.237 (-.280)	-.370* (-.363*)	-.390* (-.298)	-.342 (-.271)
Proportion of Population Aged Between 45 and 64	-.166 (-.140)	.029 (.027)	.167 (.192)	.077 (.033)	.143 (.102)	.078 (.037)
Proportion of Population Aged 65 and Over	-.260 (-.189)	-.053 (-.015)	.205 (.222)	.169 (.102)	.314 (.174)	.163 (.052)
Homogeneity of Age Distribution	.248 (.146)	.063 (.066)	-.209 (-.196)	-.178 (-.110)	-.274 (-.114)	-.170 (-.040)

n=32. All explanatory variables as defined in Chapter 3. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. Spearman correlations in brackets.

All the correlations concerning a borough's score on the Index of Multiple Deprivation and the level of inequality within a borough are insignificant (Table 8.9). These results appear contrary to what may be expected given the important role deprivation plays in much research around crime and justice. However, they do mirror the results found in the previous chapter with regards to preferences for city-wide policing. This suggests that there is not a clear link between an area's level of deprivation, low level neighbourhood disorder or crime (either real or perceived), and preferences for policing.

In contrast to the findings concerning deprivation, Table 8.9 provides evidence that preferences for local policing do vary depending on a borough's social class structure. While those correlations concerning the middle classes fail to achieve significance,

there is evidence that, as the "average" social class of a borough decreases, respondents are more likely to hold preferences which favour higher levels of local policing. For example, support for the "Do Everything" preference mix falls as the presence of the upper classes increases and increases where social classes D and E are most prevalent. Similarly, boroughs where social classes A and B are more prevalent show a preference for the "Nothing Really" preference mix. This reflects the pattern revealed in Table 7.8 with regards to preferences for city-wide policing. One explanation for this finding is that preferences for policing are not influenced by social structure *per se*. Instead, those in particular social classes often live together in areas which will exhibit distinctive characteristics, and it is these factors which shape preferences. For instance, the amount of low level disorder is likely to be lower in areas where the upper classes choose to live.

Similar to the relationships involving preferences for city-wide policing (Table 7.8), boroughs with increased heterogeneity of social class are associated with a wish to see less policing (notably the negative relationship between support for the "Nothing Really" preference mix and homogeneity of social class).

As with the analysis concerning city-wide policing, all the correlations concerning population density are statistically insignificant (Table 8.10). This may, once again, reflect London's consistent high level of urbanisation; meaning only a limited amount of variation is available to "explain" differences in preferences for policing.

Table 8.9: Correlations Between Preferences for Local Policing and Indicators of Social Class, Deprivation and Inequality at a Borough Level

	Nothing Really	Visible Policing	Visible Policing and Education	Visible Policing and Education Plus	Visible Policing and Threatening Issues	Do Everything
Proportion of Population in Social Classes A and B	.410* (.508**)	.249 (.308)	-.189 (-.209)	-.469** (-.510**)	-.442* (-.464**)	-.433* (-.526**)
Proportion of Population in Social Classes C1 and C2	-.277 (-.250)	-.156 (-.196)	.311 (.259)	.294 (.254)	.262 (.134)	.174 (.127)
Proportion of Population in Social Classes D and E	-.274 (-.294)	-.173 (-.241)	.018 (-.023)	.326 (.323)	.317 (.334)	.359* (.434*)
Homogeneity of Social Class	-.361* (-.350*)	.099 (-.250)	.219 (.205)	.436* (.399*)	.249 (.293)	.326 (.251)
Index of Multiple Deprivation Score	-.028 (-.055)	-.069 (-.069)	-.159 (-.155)	.085 (.089)	.065 (.145)	.164 (.254)
Inequality of Deprivation	-.029 (.015)	.039 (.073)	.095 (.143)	-.032 (-.070)	.043 (-.060)	-.065 (-.185)

n=32. All explanatory variables as defined in Chapter 3. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. Spearman correlations in brackets.

Table 8.10: Correlations Between Preferences for City-Wide Policing and Indicators of Population Turnover and Density at a Borough Level

	Nothing Really	Visible Policing	Visible Policing and Education	Visible Policing and Education Plus	Visible Policing and Threatening Issues	Do Everything
Proportion of Population who have Lived in Area for Less Than 1 Year	-.603** (-.547**)	.104 (.139)	.585** (.576**)	.350** (.216)	.407* (.390*)	.339 (.267)
Population Density	.212 (.210)	.108 (.093)	-.240 (-.272)	-.217 (-.183)	-.198 (-.065)	-.127 (.011)

n=32. All explanatory variables as defined in Chapter 3. ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. Spearman correlations in brackets.

Population stability appears strongly related to differences in preferences for local policing. Although the correlations involving the "Visible Policing" and "Do Everything" preference mixes are insignificant, the picture presented in Table 8.10 suggests that boroughs which have higher levels of population turnover are associated with a wish to see more local policing. This reflects the findings with regards to city-wide policing, and matches the expectation that it is those respondents who live in

areas with unstable populations who will be less sure of the strength of informal social controls and compensate for this by increasing their demand for policing.

8.1.4 Multivariate Analysis

Table 8.11 provides OLS regression models aimed at identifying those borough level characteristics which best explain variation in preferences for local policing. Those coefficients in bold show relationships which were significant across both types of correlation, and those in italics were significant in one of the bivariate tests. The regression models suggest a wider range of significant relationships than were apparent in the bivariate results. While it is hard to provide explanations for some of these newly identified relationships, the differences between the bivariate and multivariate results suggest that variation in preferences between boroughs may be due to interplay between a variety of factors which cannot easily be identified from simple correlations.

The adjusted r-squared values in Table 8.11 range from .643 to .788. This is in contrast to the relatively low adjusted r-squared values reported in Table 7.10. This provides some initial support for the view that the neighbourhood factors considered in this research may provide stronger explanations for variations in preferences for local policing than they do at a city-wide level (supporting Hypothesis 5 in Chapter 2).

A borough's probability of having respondents favour the "Nothing Really" preference mix decreases as the perceived level of neighbourhood problems increases. Similarly, membership of the "Visible Policing" class appears more likely in "good" areas; as its probability is positively related to the proportion of respondents who feel safe when out after dark.

Support for the "Visible Policing and Education" preference mix is higher in areas which have a greater perceived level of neighbourhood problems. As discussed with reference to Table 8.5, this may well be rooted in the belief that such social problems commonly involve young people. This relationship appears to persist with reference

to support for the "Visible Policing and Education Plus" preference mix, although membership of this preference group, associated with higher aggregate wished-for levels of policing, is also more likely in areas where a higher proportion of people feel unsafe after dark.

The proportion of people who feel unsafe after dark is the perception measure identified (in the multivariate model) as being most strongly related to the probability of support for the "Visible Policing and Threatening Issues" preference mix. The probability of membership in the "Do Everything" class appears to be greater in boroughs where a lower proportion of people are satisfied with their local area. All of these relationships are consistent with the expectation that those areas associated with a perceived increase in threat to persons and property will see respondents express a wish for greater levels of local policing.

While the overriding image from Tables 8.5 and 8.6 was that perceptions of security drive variations in policing preference, the multivariate models for the "Visible Policing and Education Plus" and "Visible Policing and Threatening Issues" preference mixes both suggest a relationship with a borough's level of "criminality" (positive relationships with the victimisation rate and level of conflictual police contact respectively). Both of these relationships suggest that support for these preference mixes is greater where crime, or the indication of possible criminal activity, is higher. This is consistent with the hypothesis that it is respondents from areas exhibiting the greatest threat of disorder who will favour either more responsive policing or higher levels of policing in general.

Membership of the "Nothing Really" class is more likely in boroughs where population turnover is less. Such a finding fits with the idea that, in areas with a more stable population, informal social controls may be perceived as greater and so the need for policing is considered to be less. Vice versa, an increase in the proportion of the population who have moved in the last twelve months is associated with an increase in the probability of a borough's respondents favouring the "Visible Policing and Education", "Visible Policing and Threatening Issues" and "Do Everything" preference mixes.

Table 8.11: OLS Regression Models of Preferences for Local Policing and Borough Level Explanatory Variables						
	Nothing Really	**Visible Policing**	**Visible Policing and Education**	**Visible Policing and Education Plus**	**Visible Policing and Threatening Issues**	**Do Everything**
Constant	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Proportion of Respondents Experiencing Higher Than Average Neighbourhood Problems	**-0.534 (-5.346)****		**0.628 (4.964)****	**0.415 (4.028)****		
Proportion of Respondents who Feel Safe When Out After Dark		**1.086 (7.295)****		**-0.549 (-5.359)****	**-0.829 (-8.637)****	
Proportion of Respondents Satisfied with Local Area						**-0.886 (-8.214)****
Proportion of Respondents who Have Been a Victim of Crime in the Last 12 Months					0.209 (2.285)*	
Proportion of Respondents Reporting Conflictual Contact with the Police				0.256 (2.836)**		
Index of Multiple Deprivation Score	-0.374 (-2.683)**		-0.339 (-3.071)**			
Proportion of Population Who Have Lived in Area Less Than 1 Year	**-0.385 (-3.966)****		**0.310 (2.499)***		**0.353 (4.011)****	*0.365 (3.796)***
Percentage Population in Social Classes A and B		-0.670 (-3.907)**				
Homogeneity of Social Class		-0.302 (-2.324)*				
Percentage Population Aged 45-64						0.533 (4.912)**
Percentage Population Aged 65+	-0.653 (-4.771)**			0.294 (3.312)**		
Percentage Population in White Ethnic Groups					0.535 (5.610)**	
Adj R-Squared	.788**	.649**	.643**	.765**	.761**	.717**

n=32. All explanatory variables as defined in Chapter 3. t-statistics given in brackets . ** significant at 0.01 level. * significant at 0.05 level. All variables recorded as z-scores. This use of z-scores results in the 0.000 constants.

Surprisingly, the bivariate analysis showed no relationship between deprivation and preferences for local policing. After controlling for the effects of all of the variables in a multivariate analysis, however, a significant inverse relationship is revealed between multiple deprivation and the probability of residents belonging to the "Nothing Really" group. This fits with the widely held theory that deprivation is associated with crime and fear of crime, which is, in turn, associated with greater perceived need for local policing.

If levels of deprivation are associated with crime and the fear of crime, it might be expected that those preference mixes involving greater overall levels of local policing will be more prevalent in deprived areas. The inverse relationship between a borough's level of deprivation and support for the "Visible Policing and Education" preference mix appears contrary to this expectation. One plausible explanation for this finding is that, in areas with greater levels of deprivation, there is more perceived need for the police to be out "fighting crime". It is, therefore, those respondents in less deprived areas who favour the police spending their time educating young people.

The suggestion that membership of the "Visible Policing" preference mix may be more prevalent in areas which are more heterogeneous in terms of social class fits with the previous finding (Chapter 7 and Table 8.9) that areas where the population is more varied seem to be associated with lower levels of demand for policing.

The remaining coefficents in Table 8.11 (involving a borough's structure in terms of age, class and ethnicity) are harder to interpret, because, more so than for any of the relationships discussed above, it is not clear whether they represent borough level relationships, or are indicative of underlying respondent level relationships. For instance, Table 8.11 offers some support for the argument that those boroughs with older populations favour greater, and more responsive, policing. However, previous research has suggested that, at an individual level, older respondents favour more policing (Salmi et al, 2005). Therefore, these relationships are probably best interpreted once differences between individual respondents are controlled for.

As with the results concerning preferences for city-wide policing, the results of the ecological analysis suggest that preferences for policing do vary across London. Once again, for some of the relationships identified it is possible to offer plausible suggestions as to why different contexts may result in respondents favouring different mixes of policing (supporting Hypothesis 4 in Chapter 2).

8.2 Individual Level Explanations of Preferences for Local Policing

The results presented above do suggest that preferences for local policing vary across the city, and that these differences may be related to differences in the nature of London boroughs. However, before the possible impact of neighbourhood context can be accurately assessed, it is, once again, necessary to try and account for differences between individual respondents.

8.2.1 Bivariate Analysis

Tables 8.12-8.14 present bivariate analyses of how a respondents' probabilities of appearing in particular preference groups varies depending on their characteristics, and these are followed by a multivariate model in Table 8.15.

Table 8.12 suggests that men have a higher probability of favouring the "Nothing Really" preference mix than women. This fits with the finding of Salmi et al (2005), and the analysis presented in the previous chapter, that men generally seem to express a wish for less policing. In contrast, women appear more likely to support the two preference mixes which show a concern with education. In fitting with the finding of Beck et al (1999) that those involved in home duties appeared to show a preference for the police becoming involved in family issues, it is possible that women's support for these preference mixes could reflect their likely increased role in child care.

The results involving the relationship between age and local policing preference match the expectations of Salmi et al (2005) and the analysis concerning city-wide policing in the previous chapter; they generally support the view that older respondents appear to desire larger amounts of policing. All of the significant differences identified in Table 8.12 fit with this expectation. For instance, the probability of a respondent appearing in the "Nothing Really" grouping decreases with age. Table 8.12 suggests that the probability of membership of the "Visible Policing and Education Plus" preference group is highest amongst the middle two age categories (25-64). As with the results concerning the "Traditional Policing" group in the previous chapter (Table 7.11), this could provide evidence that the relationship between age and policing preference may be more complex than increased age simply being associated with a wish to see more policing. Instead, Table 8.12 suggests that the favoured mix of policing tasks may also vary with age.

As with the results concerning city-wide policing, the main finding concerning ethnicity is that policing preference does not seem to vary between ethnic groups. The only noticeable exception to this pattern is that those respondents who are classified in either the "Black" or "Other" ethnic groups are more likely to appear in the "Nothing Really" preference group. As discussed previously, it is hard to provide an interpretation of the relationships involving the "Other" category. However, the suggestion that Black respondents may wish to see a low level of policing within their local area would appear consistent with the finding of FitzGerald et al (2002, pp160-161) that these respondents are more likely to mistrust the police or view them in an unfavourable light.

Table 8.12: The Relationships Between Respondent Characteristics and Preferences for Local Policing						
Explanatory Factor	**Nothing Really**	**Visible Policing**	**Visible Policing and Education**	**Visible Policing and Education Plus**	**Visible Policing and Threatening Issues**	**Do Everything**
Gender						
Male	40.30 (39.01-41.59)	37.28 (36.04-38.52)	4.39 (3.87-4.91)	8.41 (7.66-9.15)	6.33 (5.73-6.93)	3.27 (2.69-3.80)
Female	35.83* (34.64-37.01)	36.35 (35.16-37.52)	6.79* (6.16-7.42)	10.60* (9.82-11.38)	6.04 (5.49-6.59)	4.38 (3.76-4.99)
Age						
15-24	45.92 (43.74-48.10)	34.58 (32.57-36.59)	5.37 (4.38-6.37)	7.03 (5.92-8.14)	4.62 (3.78-5.46)	2.46 (1.62-3.29)
25-44	38.20* (36.83-39.56)	34.72 (33.42-36.04)	6.58 (5.88-7.27)	10.36* (9.49-11.23)	5.69 (5.09-6.29)	4.43* (3.72-5.14)
45-64	34.93* (33.20-36.66)	38.02 (36.29-39.74)	5.15 (4.35-5.99)	10.50* (9.35-11.66)	7.31* (6.42-8.20)	4.08 (3.22-4.94)
65+	33.65* (31.64-35.65)	42.33* (40.24-44.42)	4.53 (3.67-5.38)	8.77 (7.51-10.04)	7.14* (6.10-6.18)	4.56 (2.57-4.56)
Ethnic Group						
White	36.54 (35.52-37.57)	37.13 (36.12-38.14)	5.91 (5.41-6.41)	9.67 (9.03-10.31)	6.66 (6.16-7.16)	4.08 (3.56-4.60)
Asian	38.92 (36.40-41.43)	37.88 (35.40-40.35)	4.56 (3.52-5.59)	9.85 (8.23-11.47)	5.50 (4.43-6.58)	3.28 (2.13-4.43)
Black	43.23* (40.50-45.96)	34.13 (31.60-36.66)	5.02 (3.86-6.18)	9.28 (8.23-11.47)	4.37 (3.35-5.39)	3.95 (2.64-5.26)
Other	41.66* (37.93-45.40)	36.47 (32.90-40.03)	6.09 (4.25-7.93)	8.53 (6.43-10.64)	4.88 (3.42-6.34)	2.35 (0.99-3.71)
Social Class						
AB	35.07 (32.90-37.24)	35.20 (33.08-37.33)	5.15 (4.18-6.11)	12.63 (11.04-14.21)	8.43 (7.20-6.67)	3.50 (2.48-4.52)
C1C2	40.14* (38.91-41.37)	36.16 (34.99-37.32)	5.34 (4.79-5.90)	8.94* (8.22-9.66)	5.84* (5.31-6.38)	3.56 (3.00-4.12)
DE	35.16 (33.63-36.70)	38.84 (37.28-40.40)	6.68 (5.86-7.50)	9.13* (8.18-10.08)	5.74* (5.04-6.45)	4.43 (3.60-5.25)
Lived in Area Less Than 12 Months						
No	37.88 (36.96-38.79)	36.41 (35.52-37.30)	5.58 (5.14-6.01)	9.79 (9.22-10.37)	6.30 (5.87-6.73)	4.03 (3.58-4.49)
Yes	37.91 (35.09-40.73)	40.82* (38.00-43.64)	6.76 (5.30-8.22)	7.48* (5.95-9.00)	4.86 (3.77-5.95)	2.15* (1.14-3.16)

Overall n=7165. All explanatory variables as defined in Chapter 3. Figures in brackets are 95% confidence intervals for mean estimates.
* indicates significant difference from reference group at 0.05 level.

The relationship between respondents' social class and their preferences for local policing appears complex. There is evidence that those in the higher social classes are more likely to favour more policing in their local area (higher probability of supporting the "Visible Policing and Education Plus" and "Visible Policing and Threatening Issues" preference mixes). This fits well with the pattern identified in

Table 7.11 that these respondents attach the greatest aggregate level of importance to the city-wide policing. However, the suggestion that respondents in the middle classes have a higher probability of favouring the "Nothing Really" preference mix indicates that the relationship between social class and policing preference may not follow a linear path. The findings concerning the preferences of those in social classes D and E suggest that the role social class plays in explaining preferences for local policing may vary depending on whether it is considered at the individual or borough level. At a borough level, Table 8.9 suggested that areas which had a high proportion of their population in the lower social classes were associated with a wish to see more policing. In contrast, respondents in social classes D and E have a significantly lower probability of favouring the "Visible Policing and Education Plus" and Visible Policing and Threatening Issues" preference mixes. One explanation for this could be that areas with a higher proportion of working class respondents may exhibit characteristics which cause respondents living in those areas to favour higher levels of policing; however this is not necessarily accounted for by those in the lower social classes (indeed as discussed in the previous chapter such respondents may indeed favour seeing less policing). This highlights one of the major reasons for considering neighbourhood level explanations alongside relationships at the respondent level.

As with the relationships concerning social class, those concerning population stability appear to show a contrast with the pattern identified at the borough level. In the aggregate level analysis (Table 8.10), there was strong support for the view that those areas with the least stable populations favoured higher overall levels of policing. However, support for the expectation that respondents who have recently moved will favour higher levels of policing is not clear from Table 8.12. Such respondents do appear more likely to favour "Visible Policing" and, given the potential symbolic importance of visible patrolling (discussed in Chapter 2), it could be that this is a response to concerns associated with moving to an unfamiliar area. However, this pattern is not repeated with regards to the other preference mixes which are associated with even higher aggregate levels of policing. Indeed, for the "Visible Policing and Education Plus" and "Do Everything" groups, the pattern is the inverse of that which might be expected (i.e. those who have moved most recently appear less likely to

favour those preference mixes representing the highest levels of local policing). These results suggest that it is population instability at the area level which may be most influential with regards to preferences for local policing. However, such a judgement would be more reliable if replicated in the context of a multilevel model.

Many of the socio-demographic factors considered in Table 8.13 could be related to the measures presented in Table 8.12. For instance, Table 8.13 suggests respondents who own a car are more likely to favour the "Visible Policing and Education Plus" and "Visible Policing and Threatening Issues" preference mixes, while Table 8.12 suggests that membership of these groups is more likely amongst those from higher social classes. Similarly, the relationships concerning marital status reflect those previously identified with regards to age.

As in Chapter Seven, there is evidence that those who neither own nor rent their current accommodation hold different preferences for policing. However, as in the previous chapter, the lack of detailed information about who appears in this category means it is not possible to suggest an explanation for this finding.

Interestingly, having a person under 22 in the respondent's household does not appear to affect the importance attached to those preference mixes stressing the police's role in education. It does, however, appear to be associated with a greater likelihood of appearing in the "Nothing Really" preference group and a lower chance of a respondent favouring "Visible Policing". This could be indicative of the possibility that respondents with young people in their households hold more positive expectations of their behaviour and so may feel that they are unfairly targeted by the police.

Table 8.13: The Relationships Between a Respondent's Family Situation and Preferences for Local Policing						
Explanatory Factor	**Nothing Really**	**Visible Policing**	**Visible Policing and Education**	**Visible Policing and Education Plus**	**Visible Policing and Threatening Issues**	**Do Everything**
Car Ownership						
No	38.58 (37.08-38.30)	38.89 (37.42-40.37)	5.50 (4.80-6.20)	8.11 (7.25-8.97)	5.39 (4.75-6.03)	3.50 (2.80-4.21)
Yes	37.22 (36.14-38.30)	35.78* (34.73-36.83)	5.88 (5.36-6.40)	10.41* (9.72-11.11)	6.60* (6.07-7.11)	4.09 (3.55-4.63)
Home Ownership						
Own/Mortgage	38.31 (37.11-39.52)	37.09 (35.92-38.27)	4.67 (4.16-5.18)	10.28 (9.50-11.06)	6.36 (5.79-6.92)	3.27 (2.73-3.80)
Renting	37.94 (36.61-39.26)	36.81 (35.52-38.09)	6.67* (5.98-7.36)	8.57* (7.81-9.33)	5.51 (4.94-6.10)	4.48 (3.78-5.17)
Other	30.63* (35.95-35.32)	31.80 (27.33-36.27)	8.94* (6.22-11.65)	12.09 (8.83-15.34)	11.64* (8.72-14.57)	4.89 (2.32-7.46)
Marital Status						
Single	43.67 (42.12-45.22)	36.03 (34.56-37.49)	5.33 (4.62-6.05)	7.96 (7.09-8.84)	4.35 (3.76-4.94)	2.64 (2.03-3.26)
Married/Living as Married	35.53* (34.31-36.73)	36.49 (35.29-37.69)	5.82 (5.23-6.41)	10.52* (9.73-11.31)	7.15* (6.54-7.76)	4.49* (3.85-5.13)
Separated, Widowed or Divorced	33.89* (31.81-35.97)	39.26 (37.15-41.37)	5.94 (4.92-6.96)	9.92 (8.55-11.28)	6.61* (5.60-7.62)	4.36 (3.24-5.48)
Person Under 22 in Household						
No	36.73 (35.58-37.90)	39.35 (38.19-40.51)	5.35 (4.80-5.89)	9.03 (8.31-9.75)	6.15 (5.61-6.70)	3.36 (2.83-3.90)
Yes	39.27* (37.95-40.59)	33.72* (32.48-34.96)	6.10 (5.47-6.74)	10.25 (9.43-11.06)	6.18 (5.58-6.78)	4.46 (3.78-5.14)
Overall n=7165. All explanatory variables as defined in Chapter 3. Figures in brackets are 95% confidence intervals for mean estimates. * indicates significant difference from reference group at 0.05 level.						

Table 8.14 illustrates how an individual's preferences for local policing are related to their perceptions of their local area and experiences of crime and policing. Support for the "Visible Policing and Education Plus" and "Visible Policing and Threatening Issues" preference mixes is more likely amongst those respondents who have experienced crime in the last 12 months. Both of these sets of priorities show a wish to see the police respond quickly to call-outs, an issue likely to be of particular interest to those who have recently experienced victimisation.

The small proportion of respondents who report experiencing conflictual contact with the police means that the results concerning the impact of such contact on preferences for local policing (Table 8.14) should be interpreted with extreme caution. In

particular, it is possible that the finding that many of the relationships fail to achieve significance could be attributed to the small number of cases involved (which causes large confidence intervals to be presented). However, those who have experienced conflictual contact within the last twelve months have a substantially higher chance of appearing in the "Nothing Really" preference mix and a much lower chance of supporting "Visible Policing". This finding is contrary to that found at a borough level (where higher levels of conflictual contact were associated with support for higher levels of policing – Tables 7.8 and 7.11). This apparent contradiction could be explained by the fact that those individuals who have experienced conflict with the police are more likely to be antagonistic towards them, and so wish to see less policing, while others living within the same area (the vast majority of respondents within each borough) may see such events as characteristic of a problem within their neighbourhood, and so wish to see more policing.

As with the analysis concerning city-wide policing, it appears that it is individuals' responses to the questions about perceptions of safety and their local area which provide the most consistent indicators of likely policing preference. It once again seems possible to group together the "Nothing Really" and "Visible Policing" groups as representing the preferences of those individuals who do not wish to see a particularly large amount of policing in their local area. These respondents are generally less likely to fear crime, more likely to feel safe after dark, more likely to be satisfied with their local area and less likely to perceive their local area as having a high level of neighbourhood problems. These results support the view that it is those who feel most secure who feel the least need for policing.

Support for the "Visible Policing and Education" preference mix is linked to respondents feeling less safe when out after dark and perceiving their area to have a higher level of neighbourhood problems. Both of these issues could be associated with the perceived behaviour of young people; for instance, it is young people who are commonly blamed for graffiti and groups of young people who are often blamed with making people feel unsafe. As such, respondents who are concerned about these issues may wish to see the police interact more with young people.

Membership of the remaining three groups, which it could be argued represent a wish to see more immediate policing activity in the local area, is more likely amongst respondents who perceive a high level of neighbourhood problems, are less satisfied with their local area, who feel unsafe after dark and who fear crime. As these preference mixes involve a wish to see more immediate and wide ranging policing, it is not surprising that their membership is related to a wider range of neighbourhood perception indicators.

Table 8.14: The Relationships Between A Respondent's Experience of Crime, the Police and Local Surroundings and Preferences for City-wide Policing

Explanatory Factor	Nothing Really	Visible Policing	Visible Policing and Education	Visible Policing and Education Plus	Visible Policing and Threatening Issues	Do Everything
Victim of Crime in last 12 Months						
No	38.02 (37.08-38.95)	37.43 (36.52-38.35)	5.79 (5.34-6.24)	9.11 (8.55-9.69)	5.88 (5.46-6.30)	3.75 (3.30-4.20)
Yes	37.43 (34.67-39.38)	32.99* (30.77-35.21)	5.05 (4.05-6.04)	12.46* (10.85-14.08)	7.97* (6.73-9.20)	4.50 (3.26-5.73)
Conflictual Contact with Police in Last 12 Months						
No	37.74 (36.87-38.62)	36.92 (36.07-37.77)	5.69 (5.28-6.11)	9.59 (9.05-10.14)	6.18 (5.77-6.58)	3.86 (3.44-4.29)
Yes	52.98* (43.56-62.40)	25.81* (18.29-33.33)	4.85 (1.38-8.56)	8.03 (3.33-12.74)	5.09 (1.05-9.14)	3.23 (-1.11-7.57)
Fear Crime						
No	41.15 (39.98-42.31)	40.26 (39.12-41.40)	5.34 (4.80-5.89)	6.73 (6.13-7.34)	4.62 (4.17-5.07)	1.88 (1.48-2.28)
Yes	33.35* (32.05-34.66)	32.21* (30.94-33.48)	6.13 (5.49-6.78)	13.51* (12.54-14.48)	8.31* (7.57-9.04)	6.47* (5.64-7.30)
Feel Safe When Out After Dark						
No	32.35 (31.19-33.50)	34.62 (33.47-35.78)	6.51 (6.04-7.26)	12.28 (11.45-13.10)	8.27 (7.63-8.92)	5.82 (5.11-6.52)
Yes	44.13* (42.84-45.42)	39.30* (38.06-40.54)	4.59* (4.05-5.14)	6.52* (5.87-7.19)	3.79* (3.35-4.23)	1.64* (1.23-2.05)
Satisfied with Local Area						
No	31.87 (30.17-33.57)	29.77 (28.16-31.39)	5.58 (4.77-6.39)	14.05 (12.76-15.34)	9.97 (8.91-11.04)	8.74 (7.49-10.00)
Yes	39.54* (38.53-40.55)	39.25* (38.26-40.25)	5.78 (5.29-6.27)	8.17* (7.59-8.76)	4.95* (4.54-5.35)	2.29* (1.91-2.67)
Perceive High Level of ASB In Local Area						
No	48.62 (47.36-49.87)	38.52 (37.33-39.71)	2.98 (2.57-3.40)	5.37 (4.77-5.97)	3.23 (2.84-3.61)	1.26 (0.90-1.62)
Yes	27.49* (26.38-28.60)	35.17* (33.97-36.38)	8.30* (7.60-9.00)	13.65* (12.77-14.52)	9.01* (8.32-9.70)	6.37* (5.62-7.11)

Overall n=7165. All explanatory variables as defined in Chapter 3. Figures in brackets are 95% confidence intervals for mean estimates.
* indicates significant difference from reference group at 0.05 level.

Taken as a whole, these bivariate results suggest that preferences for local policing may indeed vary across different sections of society (Hypothesis 3 in Chapter 2). As with the results concerning city-wide policing, for many of the relationships uncovered it is possible to construct causal explanations suggesting that differences in an individual's preferences may reflect the perception they hold of the police's place within society and the role they may play in the respondent's life. Examples include the association between experiencing conflictual contact with the police and supporting the "Nothing Really" preference mix, or the wish amongst those who perceive higher levels of low-level disorder to favour preferences mixes associated with increased levels of local policing. However, there are also several findings for which it is difficult to construct causal explanations or where relationships which might be expected to occur fail to appear (for instance, between having a young person in a household and supporting the police's role in education). Once again, the picture is of complex causality and of the need to move beyond simple bivariate analysis.

8.2.2 Multivariate Analysis

Table 8.16 provides a multivariate model of the individual level factors which influence respondents' preferences for local policing. As with the models involving city-wide preferences, these models are created by comparing the probability of support for a given preference mix to support for a reference (or default) set of priorities. In this case, the "Nothing Really" class, which consists of respondents who are not unduly concerned with seeing more policing in their local area, is taken as the reference group.

Table 8.15 suggests that respondents who perceive their local area to have a high level of neighbourhood problems are more likely to support any preference mix as against the "Nothing Really" option. This fits with the expectation that respondents will see increased policing as one response to low-level disorder. The conclusion that membership of the "Visible Policing" preferences group is more common amongst

those perceiving a high level of neighbourhood problems illustrates how the variation in model setup between the bivariate and multivariate results can influence the results presented. The bivariate results (Table 8.14) suggested that respondents perceiving their areas as having a high level of neighbourhood problems were less likely to favour the "Visible Policing" preference mix. However, the bivariate results concern a respondent's absolute probability of supporting a particular mix of policing, while these multivariate results involve the relative probability of support compared to the "Nothing Really" class. While the "Visible Policing" class may represent relatively low demand for policing in absolute terms, it implies a wish to see more policing than the "Nothing Really" group, hence the results in Table 8.15.

When compared to the "Nothing Really" group, support for the "Visible Policing" preference mix appears more likely amongst respondents who are female and those in older age groups (aged 45 and over). Such findings appear consistent with the work reviewed in Chapter Two, for instance Salmi (2005). Finally, membership of the "Visible Policing" preference class appears more likely amongst respondents who have moved house in the last 12 months. Once again this result appears consistent with earlier analysis because those who have recently moved to an area may feel less integrated into its fabric and less sure about the level of disorder or informal social controls. Increased policing, and in particular visible policing with its symbolic importance, can be seen as a response to this uncertainty.

Table 8.15: Respondent Level Explanatory Factors Relating to Differences in Preferences for City-wide Policing ("Nothing Really" Group Used as Reference Category)					
	Visible Policing	**Visible Policing and Education**	**Visible Policing and Education Plus**	**Visible Policing and Threatening Issues**	**Do Everything**
Female	0.245 (2.696)	0.905 (6.304)	0.442 (3.549)		
Aged 25-44					0.550 (2.235)
Aged 45-64	0.387 (4.394)			0.714 (4.979)	0.845 (3.243)
Aged 65+	0.777 (5.589)			0.758 (2.385)	0.839 (3.459)
Social Classes C1C2		0.925 (2.527)	-0.732 (-5.251)	-0.937 (-3.262)	
Social Classes DE		0.906 (2.614)	-0.838 (-4.381)	-1.351 (-4.368)	
Having Person Under 22 in Household		0.459 (3.240)			-0.379 (2.308)
Living in Local Area for Less Than 1 Year	0.435 (2.800)	0.591 (2.467)			
Fear Crime			0.517 (4.465)		0.561 (2.788)
Feel Safe When Out After Dark			-0.817 (-6.620)	-1.348 (-5.279)	-1.095 (4.056)
Satisfied with Local Area				-0.945 (-3.487)	-1.118 (-6.249)
Perceive High Level of ASB In Local Area	0.858 (2.766)	3.856 (4.763)	1.887 (11.562)	2.608 (6.787)	2.277 (7.518)
Overall n=7165. All explanatory variables as defined in Chapter 3. Figures are unstandardised coefficients. t-statistics given in brackets. All variables significant at at least a 0.05 level. Blank cells refer to variables which were not significant at the 0.05 level.					

Similarly to membership of the "Visible Policing" group, the probability of membership in the "Visible Policing and Education" class increases if respondents are female, perceive their local area to have a high level of neighbourhood problems and have moved area within the last twelve months. In addition, support for this preference mix is more likely if respondents live in a household containing at least

one person under the age of 22. While not identified in the previous bivariate analysis, it seems reasonable that those respondents who live with young people would see a greater benefit in the police interacting with young people through education. The finding of the multivariate model is therefore not surprising and could be seen as consistent with the hypothesis that individuals will favour policing tasks from which they can identify a personal benefit. Membership of this class also seems more likely amongst those respondents in social class C1 and below. The reason for this finding is not immediately clear and provides one example of where the results presented in this thesis could benefit from further, possibly qualitative, follow-up research (see conclusions in Chapter 9). Possible explanations worthy of consideration could include that respondents from these social classes are more likely to live in areas which are affected by the sort of low level social problems commonly associated with young people and see greater interaction between the police and young people as one way to address this issue. Alternatively, it is possible that respondents in the lower social classes may have fears about raising their own children within their particular context and feel that education from the police may help to prevent their children from becoming involved in drugs or crime.

Besides increasing amongst respondents who perceive their local area as having a high level of neighbourhood problems, the probability of support for the "Visible Policing and Education Plus" preference mix is greater amongst female respondents. The probability of membership in this class, which represents a relatively high demand for policing spread across a range of functions, also increases amongst those who feel unsafe when out after dark and fear crime. These findings are consistent with the expectation that it is those respondents who feel the greatest sense of insecurity who will prefer higher levels of policing.

Respondents in the lowest social classes appear less likely to support the "Visible Policing and Threatening Issues" preference mix. Again, this strongly suggests a relationship between a respondent's social class and preferences for policing, with those in higher social classes generally appearing to support greater levels of policing. Support for this preference mix is also higher amongst older respondents, a finding

which fits the hypothesis that it is older respondents who favour greater levels of police activity (see Chapter 2). That membership of this preference mix is greater amongst those who perceive a greater threat from crime or disorder is supported by the fact that the probability of membership in this group also increases amongst respondents who feel unsafe after dark or who are generally dissatisfied with their local area. Once again, these relationships would appear to support the argument that it is those respondents who feel less safe, or are generally not happy with the nature of their surroundings, who may perceive more reasons for the police to address potential threats in a timely manner.

The expectation that those who see deficiencies in their surroundings may request more policing is well illustrated by those factors associated with an individual supporting the "Do Everything" rather than the "Nothing Really" preference mix. Membership of this class is not only more likely amongst those respondents who perceive their local area to have a high level of neighbourhood problems, but also amongst those who fear crime. Similarly, the probability of membership increases if a respondent feels unsafe after dark or is dissatisfied with their local area. Support for the "Do Everything" preference mix is greater amongst all but the youngest respondents, a finding which again fits with the expectation that there is a positive relationship between a respondent's age and the level of policing they desire. Finally, support for this preference mix appears less common amongst those respondents whose household contains at least one person under the age of 22. This finding reflects the bivariate analysis which suggested that such respondents may be more likely to appear in the "Nothing Really" group. It seems plausible that this result could reflect the fact that respondents with greater involvement with young people may be more likely to see them as unfairly targeted by the police and so favour less overall policing or more constructive policing as suggested by the "Visible Policing and Education" preference mix. Taken as a while, the results in Table 8.15 support the view that policing preferences vary systematically across different groups within society (Hypothesis 3 in Chapter 2).

8.3 Integrating Borough Level and Individual Level Explanations of Preferences for Local Policing

Table 8.16 builds on the individual level models by investigating whether any borough level factors remain significant predictors of preferences for local policing once differences between respondents are controlled for.

Introducing borough level factors to the model has little impact on which individual level factors appear significant. Comparing the models in Table 8.16a with those in Table 8.15 shows that four out of five of the equations have lost only one significant individual level factor. The exception to this is the model concerning support for the "Do Everything" preference mix, which has lost both an individual's fear of crime and whether or not the respondent's household includes a person under 22 years of age. These results suggest that those neighbourhood level factors now included in the model are adding to the explanation provided rather than simply shifting explanation from one level to another. During the preceding borough level analysis (Table 8.11), it was suggested that borough level relationships to age, social class and ethnicity might be expressions of relationships which were actually present at the respondent level. Table 8.15 supports this view to some extent as no relationships involving the ethnicity of a borough are present in the multilevel analysis. However, a borough's structure in terms of age and class does remain significant. This suggests that these factors may have a wider impact on preferences for policing, beyond those that can be explained by relationships at the individual level.

One interesting finding is that introducing borough level explanatory variables causes a respondent's age to become significant in identifying support for the "Visible Policing and Education Plus" preference mix. Table 8.16a suggests that support for this preference mix (in contrast to the "Nothing Really" preference mix) is greater amongst older respondents. This mirrors the relationship involving membership of the "Do Everything" class, and reflects the fact that older respondents favour higher overall levels of policing. This result demonstrates the way in which combining both

individual and borough level explanations may provide greater insight into who prioritises different policing functions than is apparent from a single level explanation.

Table 8.16a: Respondent Level Explanatory Factors Relating to Differences in Preferences for Local Policing in a Clustered Multilevel Model ("Nothing Really" Group Used as Reference Category)

	Visible Policing	Visible Policing and Education	Visible Policing and Education Plus	Visible Policing and Threatening Issues	Do Everything
Individual Level					
Female	0.224 (2.411)	0.805 (8.140)	0.503 (5.030)		
Aged 25-44			0.600 (4.308)		0.758 (2.897)
Aged 45-64	0.423 (4.651)		0.539 (3.108)	0.671 (6.230)	0.867 (2.729)
Aged 65+	0.830 (7.382)		0.501 (2.362)	0.688 (3.520)	0.673 (2.546)
Social Classes C1C2		1.020 (2.958)	-0.351 (-2.475)		
Social Classes DE		1.137 (3.243)	-0.615 (-3.641)	-0.415 (-2.223)	
Having Person Under 22 in Household		0.419 (4.334)			
Feel Safe When Out After Dark			-0.750 (-6.181)	-0.953 (-5.885)	-1.184 (-5.146)
Satisfied with Local Area			-0.584 (-4.361)	-0.705 (-3.547)	-1.187 (-6.564)
Perceive High Level of ASB In Local Area	0.857 (2.711)	4.191 (5.147)	1.579 (8.846)	1.522 (5.351)	1.939 (6.786)

Individual n=7165. Borough n=32. All explanatory variables as defined in Chapter 3. t-statistics given in brackets. All variables significant at at least a 0.05 level. Blank cells refer to variables which were not significant at the 0.05 level.

Table 8.16b: Borough Level Explanatory Factors Relating to Differences in Preferences for Local Policing in a Clustered Multilevel Model ("Nothing Really" Group Used as Reference Category)					
	Visible Policing	**Visible Policing and Education**	**Visible Policing and Education Plus**	**Visible Policing and Threatening Issues**	**Do Everything**
Borough Level					
Proportion of Population Aged Between 25 and 44			-0.690 (-3.812)		-1.225 (-4.023)
Proportion of Population Aged 65 and Over				0.666 (3.127)	
Proportion of Population in Social Classes A and B				-0.581 (-2.749)	-0.831 (-2.353)
Proportion of Population in Social Classes D and E			-0.705 (-3.964)		
Proportion of Respondents who have Lived in Area for Less Than 1 Year	0.650 (5.778)	1.056 (5.617)	0.814 (4.267)	0.937 (5.528)	1.023 (5.840)
Proportion of Respondents Experiencing Higher than Average Neighbourhood Problems			0.381 (1.998)		
Proportion of Respondents Satisfied with Local Area			-1.275 (-5.462)		-1.342 (-4.943)
Proportion of Respondents who Feel Safe When Out After Dark in Local Area				-1.368 (-2.623)	
Individual n=7165. Borough n=32. All explanatory variables as defined in Chapter 3. t-statistics given in brackets. All variables significant at at least a 0.05 level. Blank cells refer to variables which were not significant at the 0.05 level.					

If there is evidence that the introduction of borough level variables simply results in patterns of explanation moving from one level of aggregation to another, it is with regards to support for the "Visible Policing" and "Visible Policing and Education" preference mixes. In both cases, the proportion of a borough's population that has moved in the last twelve months is the only borough level variable to appear significant, but this is at the expense of the respondent level indicator of the same concept. Both of the borough level coefficients are of the expected direction suggesting that in areas with a greater degree of population turnover individuals are

more likely to favour the "Visible Policing" or "Visible Policing and Education" preference mixes. That it is the borough level measure which is significant in the two-level model suggests that it is the stability of an area's population rather than the movement of individual respondents which most influences preferences for local policing. This finding may reflect the way in which uncertainty felt by respondents who have recently moved may affect their preferences, while general feelings of uncertainly, or perceptions of weaker social ties, associated with an area having a high level of population turnover could be expected to influence the preferences of all those living within an area.

The expectation that the level of population turnover within a borough may be an important predictor of an individual's preference for local policing is supported by the finding that this is the only borough level variable to appear in all the models in Table 8.16b. In fitting with the expectation that a high level of population turnover will be associated with a wish to see more policing, it is no surprise to find that all the coefficients associated with this factor are positive.

With regards to the "Do Everything" preference mix, introducing the borough level variables sees an individual's fear of crime drop out of the model, possibly because this is now sufficiently captured by a combination of the remaining individual level perception factors and those borough level factors representing a respondent's local area. Respondents' probabilities of supporting the "Do Everything" preference mix decrease if they live in boroughs where a smaller proportion of the population are in high social classes and where residents are more dissatisfied with their local area. The probability of membership in this group falls if a respondent lives in an area where a larger proportion of the population are aged between 25 and 44. One explanation for this result may be that living in an area where the population has relatively few young people or elderly residents causes respondents to be less concerned about social issues associated with young people and less concerned about the perceived needs of the elderly, resulting in the belief that their local area requires less policing. However, as with the borough level results discussed above, it is

possible that a borough's age structure is acting as a proxy for one or more other characteristics not considered in the analysis.

Both individual and borough level measures of how satisfied respondents are with their local area are included as predictors of support for the "Everything Equal" preference mix. This suggests that wider perceptions within an area can influence an individual's preferences for policing above and beyond the impact of any personal dissatisfaction respondents may feel.

Table 8.16b indicates that the probability of membership in the "Visible Policing and Threatening Issues" preference group is likely to be higher for respondents whose local area has a higher proportion of population aged 65 and over, has less of its population in the higher social classes and where the population feel less safe when out after dark.

The inclusion of the general perception of night time safety within a borough alongside the respondent level indicator of the same concept provides further evidence that collective perceptions may provide an additional determinant of policing preference in addition to a respondent's personal attitude. Similarly, the finding that living in an area with a higher proportion of those aged 65 and over is associated with an increased chance of a respondent appearing in the "Visible Policing and Threatening Issues" group mirrors, but does not replace, the relationship with age at the individual level and suggests that respondents may be taking account of the perceived needs of those around them when deciding on their preferences for local policing.

The negative relationship between the proportion of a borough's population in higher social classes and membership of the "Visible Policing and Threatening Issues" group matches the relationship suggested by the borough level analysis (Table 8.9), but appears contrary to that concerning a respondent's membership of social classes D

and E at the individual level. This result could be attributed to the fact that, while those in lower social classes may wish to see less policing (perhaps because they feel unfairly targeted by the police), the area level variable acts as a proxy for the tendency of more "well off" areas to exhibit less visible social disorder and so appear less in need of policing. This interpretation of the area level variable would appear consistent with the relationships concerning perceptions of satisfaction, fear of crime and the level of neighbourhood problems at both the individual and neighbourhood levels. This finding provides further evidence of how a multilevel explanation can provide greater insight because the relationship between an explanatory variable and policing preferences can vary depending on the level of aggregation considered.

The introduction of borough level factors causes the individual level relationship between respondents' fear of crime and their likelihood of favouring the "Visible Policing and Education Plus" preference group to become insignificant. However, this is accompanied by the introduction of a new relationship at the individual level, which suggests that those respondents who are less satisfied with their local area are more likely to support this preference mix. It seems feasible that those who are dissatisfied with their local area may also be more fearful of crime. Therefore this new relationship does not undermine the general conclusions reached with reference to Table 8.15.

The borough level variables identified as significant predictors of membership in the "Visible Policing and Education Plus" class indicate support for this preference mix increases amongst respondents who live in areas that are less well perceived by their residents. Once again, the inclusion of borough level perception measures along with their individual level counterparts suggests that attitudes held within an area may play an additional role in explaining policing preference above and beyond the perceptions held by individual respondents. Overall, this analysis supports the view that a desire for greater levels of local policing will be more prevalent amongst respondents from areas which show the greatest level of threat to people and property.

8.4 Conclusions

As with the analysis concerning city-wide policing, the results presented in this Chapter suggest that the characteristics of a respondent's neighbourhood influence their preferences for policing. Broad similarities between the geographical distribution of city-wide and local policing preference can be identified. An East-West split is apparent with membership of those preference mixes associated with low levels of local policing (namely "Nothing Really" and "Visible Policing") appearing more likely to the West, while a desire for higher levels of local policing is concentrated to the East, and in particular, the south-east of the city.

The analysis conducted at a borough level suggests that preferences do vary across London and that this variation may to some extent be explained by the explanatory factors considered in this thesis. For example, support for the "Nothing Really" preference mix is less likely in boroughs which have higher levels of population turnover or are associated with higher levels of neighbourhood problems. This offers support for Hypothesis Four developed in Chapter Two. In addition, the individual level analysis suggests that preferences for local policing do vary between different groups within society (as suggested by Hypothesis 3 in Chapter 2).

It is possible to construct explanations for many of the relationships found. For instance, those who have experienced conflictual police contact in the previous twelve months favour lower absolute levels of local policing, presumably because this would reduce their chances of conflict with the police in the future. However, not all of the findings can be easily explained: for example, it is not clear why a borough's age structure should relate to the mix of preferences for local policing in the way that it does. Further research, perhaps along the lines of the focus groups reported by FitzGerald et al (2002), could provide one approach to trying to understand these causal mechanisms.

The models presented in Table 8.16 suggest that neighbourhood-level characteristics do play a role in shaping an individual's preference for local policing even when differences between respondents are controlled for. For the most part, these results are comparable with the single-level models developed earlier in the Chapter. However, some apparently contradictory results do exist across the two levels of explanation. For instance, the finding that membership of the "Visible Policing and Threatening Issues" preference mix is less likely amongst individuals from the lower social classes and is less likely in areas where a relatively large proportion of the population is from higher social classes. Such findings provide support for the view that similar explanatory factors may represent different concepts, and influences preferences for policing in different ways, depending on the level of aggregation at which they are considered.

An important finding is that some borough level explanatory variables remain significant even after differences between respondents are controlled for. This suggests that borough level factors add to the picture of which factors account for an individual's preference for local policing. This idea that neighbourhood factors may provide an additional dimension of understanding is indicated by the fact that in some models (such as that concerning membership of the "Visible Policing and Threatening Issues" group in Table 8.16), identical perception measures appear significant at both the individual and neighbourhood level. This suggests that, besides the direct impact of a respondent's perception on their own preferences, the wider perceptions held by all those who live in an area may have a role to play.

Unfortunately, the limitations of the multilevel techniques employed mean it is not possible to identify the amount of variance explained at the borough level relative to an individual level. This means that it is not possible to reach a concrete conclusion about whether neighbourhood factors play a larger role in explaining preferences for policing at a local or city-wide level. However, comparing the adjusted r-squared values in Tables 7.10 and 8.11 suggests that at an aggregate level, the borough level factors considered in this thesis are more closely related to variation in preferences for local policing than they are for city-wide policing. Appendix 8.1 goes some way to addressing this deficiency by presenting null-multilevel models for preferences

towards local and city-wide policing. These models do not include any explanatory variables but do give a good indication as to how variation may be distributed between different levels of explanation. These models do suggest that, compared to preferences for city-wide policing, a greater proportion of the variation in preferences for local policing may be focused on borough level differences. This supports the idea put forward in Hypothesis Five of Chapter Two.

APPENDIX 8.1: THREE LEVEL NULL MODELS OF PREFERENCES FOR CITY-WIDE AND LOCAL POLICING

The models presented in Chapters Seven and Eight identify both individual and borough level variables which might help to predict which policing preference group a respondent might appear in. However, one limitation of these models is that they provide no indication as to the relative importance of the different levels of explanation, i.e. does policing preference appear more related to differences in individual or neighbourhood level explanatory factors?

The partitioning of variance between different levels is often a key part of analysis within multilevel modelling (Twisk, 2006, p14-16), and is commonly studied using the Interclass correlation (ICC). For any given level in a model (i), this is calculated using formula 8A.1.

$$ICC = \frac{\text{Variance Explained at Level}_i}{\text{Total Variance Explained}} \qquad (8A.1)$$

The ICC can be calculated on a null model (a model containing no explanatory variables) to gain an impression of how variance may be distributed between different levels of explanation. The data considered in this thesis could be thought of as having a three-level structure; Level 1 being a respondent's attitude towards the different policing tasks they were asked to consider, Level 2 being the respondents, and Level 3 being a respondent's home borough.

The formula shown above assumes the variables under consideration are continuous. There remains a debate about how to apply Formula 8A.1 when the variables used at Level 1 are categorical (as is the case with those PAS questions used to measure a respondent's preferences for policing). This issue concerns how the variance at Level

1 should be defined given that categorical measures do not follow a normal distribution (Snijders and Boskers, 1999, p225-227). However, while creating a null three level models involves using the ratings provided by respondents for each function as data at Level 1, variance at this level is little interest because, in the previous two chapters, this variance was "fully accounted for" via a respondent's classification in the LCA model. The focus of this study is on the relative importance of the respondent and borough levels (Levels 2 and 3 in the 3 level null model). Estimates of the variation attributed to these levels are provided directly when the three level model is estimated.

Table 8A.1 provides estimates of the variance explained at the respondent and borough levels for both the city-wide and local area preference considered throughout this thesis. This would appear to offer some support for the view that more of the variation related to attitudes towards local policing can be attributed to borough level factors. This conclusion fits with the expectation that neighbourhood issues are more likely to influence a respondent's preferences for local policing issues (supporting Hypothesis 5 in Chapter 2).

Table 8A.1: Relative Variance Explained in Null Multilevel Models of Preferences for City-wide and Local Policing

Level	**City-wide Policing**		**Local Policing**	
	Raw Variance Explained	Proportion of Variance (Respondent versus Borough)	Raw Variance Explained	Proportion of Variance (Respondent versus Borough)
Question (Level 1)	n/a	n/a	n/a	n/a
Respondent (Level 2)	0.328* (0.042)	83.7%	0.440* (0.060)	63.2%
Borough (Level 3)	0.064* (0.011)	16.3%	0.256* (0.025)	36.8%

City-wide policing model involves 13 ordinal (3 category variables) variables (91477), nested with 7135 respondents, within 32 London Boroughs. Local policing model involves 12 binary variables (85980), nested with 7165 respondents, within 32 London Boroughs. Raw variance figures calculated by GLLAMM in Stata 9.2. Standard errors given in brackets. * indicates significant at 0.05 level.

CHAPTER 9: CONCLUSIONS

In view of the ongoing academic and policy debate around the idea of community policing, this thesis has presented an investigation into whether or not the nature of the area in which an individual lives influences their preferences for policing. In short, the analysis in the preceding chapters does suggest that an individual's preferences for policing do vary depending on their locality. Much of this variation is consistent with the view that people take cues from their surroundings when identifying the tasks they believe the police should focus on. However, underlying this overall conclusion, two further points are worthy of note. Firstly, the policing tasks favoured by a given individual often seem to reflect an underlying view about the general approach the police should be taking. Secondly, the influence of neighbourhood context may well be greater when individuals are considering local rather than London wide policing.

As well as addressing the substantive issue of the influence of social context on preferences for policing, this thesis provides an illustration of how modern statistical techniques can be applied to the large-scale survey data prevalent in many areas of social science. The analysis presented suggests that latent class analysis can be a useful tool for identifying underlying patterns within a complex dataset. Using this technique, it has been possible to locate groups of respondents within the data who exhibit similar preferences for policing; a process, which in addition to giving a more complete understanding of the patterns within the data, can make the dataset easier to interpret. Similarly, the linking of survey respondents' answers to the wider social context in which they live appears to have added a new layer of explanation, as shown through the discovery of relationships which link an individual's preferences to the nature of their borough. This finding supports the argument that multilevel modelling of the responses in social surveys may aid researchers in more completely understanding the importance of social context.

While it can be argued that the analysis presented in this thesis presents a more detailed quantitative evaluation of the formation of preferences towards policing than

has hitherto been available, it is important to realise that limitations concerning the dataset used and the methods employed mean that further research would be valuable to help address still unresolved issues. In particular, more effort should be directed towards trying to accurately estimate the relative explanatory power of individual and neighbourhood level differences in shaping a respondent's answers. Additionally, more in-depth research should help to further understand the causal mechanisms which underpin the patterns uncovered in this analysis.

9.1 Can We Measure Preferences for Policing Using Survey Data?

In Chapter Two, it was argued that much of the previous research around priorities for policing had considered indicators which are too simplistic to give a full understanding of the phenomenon under investigation. Existing research has generally considered either an aggregate indicator of the quantity of policing an individual wishes to see (Salmi et al, 2005) or their attitude towards specific policing activities (for instance Nicholas and Walker, 2004), without necessarily considering how this might relate to their attitude towards other policing functions. In contrast, the models presented in Chapters Five and Six suggest that the importance an individual attaches to one policing function is probably related to the importance they attach to other functions. Furthermore, it does seem that when respondents differentiate between the importance they attach to different policing functions, those tasks they rate in similar ways often appear representative of a more general approach to policing. For instance, when considering city-wide policing, those individuals who believe the police should attach high importance to consulting with the public tend also to favour more visible patrolling and a focus on policing major events in London, all tasks which can be taken together to represent an underlying concept of visible community policing (Table 5.8). Similarly, when considering local policing, those individuals who wish to see the police provide education about drugs also favour the police spending more time visiting schools (Tables 6.3-6.5). In addition, the apparent coherence of the factors identified adds weight to the view that the responses individuals provide to specific questions may reflect an underlying expectation of how they believe the police should act. This point is further supported by the apparent relationship between preferences for policing in a respondent's local area

and across London as a whole (Tables 6.8-6.11), suggesting, for instance, that those individuals generally most concerned about macro level issues such as preventing terrorism are less likely to indicate a need for a high level of policing in their local area. These findings appear to support the conclusion of Beck et al (1999), and Hypothesis One presented in Chapter Two, which stated "The importance an individual attaches to different policing tasks is likely to reflect underlying beliefs about the role of the police within society."

The results of the latent class analysis support the view that a dependent variable measuring policing preference in terms of the overall amount of policing an individual wishes to see may present a simplistic picture of respondents' actual attitudes. This was most clearly shown when considering preferences for policing in a respondent's local area (Chapter 6). Those individuals who favour the police combining visible policing with a role as educators prefer an identical amount of policing as those wishing to see visible policing combined with dealing with potentially threatening issues, even though the policing tasks they wish to see prioritised are different. Taken together with the results of the factor analysis, this suggests that an individual's preference for policing is best represented by a measure which considers both some indication of the amount of policing they wish to see and details of the tasks they wish to see prioritised (such as the indicators developed in this thesis). The lesson is that, as in other areas of the social sciences, we should present disaggregated findings wherever possible (see Castles, forthcoming). The ability of latent class analysis to identify groups of respondents who hold similar preference patterns offers support for the second hypothesis developed in Chapter Two that "it is possible to identify groups of individuals who attach similar importance to different policing tasks".

9.2 Are Individuals' Preferences for Policing Affected By Questionnaire Structure?

As discussed in the previous section, it would appear that when considering the importance they attach to different policing tasks, respondents often favour tasks which can be grouped together to represent an underlying approach to policing. However, care must be taken when interpreting the meaning of these groupings. With regards to city-wide policing, around one third of respondents are associated with a preference mix which indicates they attach high importance to all the policing functions they are asked to consider. One possible explanation for this is that respondents who believe the police are a useful service will wish to see as much policing as possible (unless questionnaire constraints prevent them from doing so). However, it is also possible that this result may reflect how, as respondents are likely to be unclear about which policing tasks are most likely to benefit them, they will take the simple, safe, option of saying all tasks are highly important. In essence, this finding could be seen as reflecting a respondent's reaction to the questionnaire they were given, rather than expressing a considered opinion about their priorities for policing.

Interestingly, the above finding is not replicated with regards to policing in a respondent's local area. Instead, many respondents appear to believe that policing in their area would be improved by the police undertaking only a handful of tasks out of those they were asked to consider. More research would be required to understand the reasons for this finding. One possible explanation is that respondents are more aware of the needs of their local area and so are more able to discriminate concerning the relevance of different policing functions. In contrast, respondents could be expected to have less concrete knowledge about the needs of London as a whole and may respond to this uncertainty by increasing the importance they attach to all the functions they are asked to consider. However, an alternative explanation (based on issues to do with questionnaire response discussed in Chapter Three) may be that the questions concerning local policing follow a different structure than those for city-wide policing, with questions about local policing focusing on which tasks the police should undertake to improve an area, while those involving city-wide policing simply

tap the general importance respondents attach to different policing tasks. The lack of direct comparability between the questions about city-wide policing and local policing illustrates one of the problems associated with undertaking secondary analysis of an existing survey (a topic which will be discussed further shortly) and undermines any definitive attempt to account for the finding identified above.

9.3 Do Differences in Preferences for Policing Reflect Differences Between Individuals?

The analysis presented in Chapters Five and Six showed that when asked about the importance of different policing tasks, many individuals favour tasks which could be grouped together to represent an understandable general view of what the police should be doing. This suggested that, at least to some extent, the ratings respondents were giving to different tasks may be based on an understandable thought process, rather than simply reflecting the nature of the survey instrument used. However, such a finding does not address the question of whether or not an individual's favoured mix of policing is in any way related to the situation in which they find themselves. The analysis presented in Chapters Seven and Eight suggests that the probability of a respondent favouring a given preference mix does vary depending on the characteristics of the respondent and the borough in which they live. This analysis therefore offers support for view that policing preference will vary systematically across respondents and boroughs (supporting Hypotheses Three and Four in Chapter 2). One possible explanation for this could be that an individual will favour a mix of policing which he or she believes will best protect them from the threats they perceive, and that this perception of threat can be proxied by the characteristics of the respondent and his or her social context. The analysis concerning the impact of respondents' characteristics on likely policing preferences (presented in Tables 7.11-7.14 and 8.14-8.16) does offer some support for this explanation. For instance, it is generally the case that female respondents, older respondents, those who feel unsafe in their local area after dark, and those perceiving their local area to manifest high levels of neighbourhood problems (all characteristics which previous research has suggested are linked to an increased fear of crime) appear to favour preference mixes which attach a high level of importance to many policing tasks. Similarly, support for

seeing the police undertake interaction with young people is more popular amongst those with young people in their household, presumably because the may believe this task is more directly relevant to their family. It is also interesting to note that the inverse of these relationships appears to be supported by the data. In the bivariate tests of local policing preference, there is evidence that those who perceive the police as a problem (identified by conflictual contact in the last twelve months in Table 8.14) may wish to see less policing in their local area, presumably because they feel unfairly targeted, or because they see the police as disrupting their day-to-day lives. These, amongst other findings, suggests that individuals' situations may influence, in a systematic way, not only the aggregate level of policing they wish to see but also the types of policing that they favour.

While many of the relationships suggested by the analysis appear to fit with the view that respondents favour a mix of policing to address the threats they perceive, it is important to note that not every relationship can be made to fit this argument. Notable here is the difficulty which surrounds the membership of the "Other" categories for home ownership and ethnicity. These groups are generally small and often appear to show distinctive patterns of policing preferences. Unfortunately, the lack of further information about who is recorded as an "Other" and how this may affect their position within society means it is difficult to discuss these findings in any detail, a point which could only be addressed through further more detailed follow-up work. The relative absence of significant relationships between policing preferences and a respondent's ethnicity is also worthy of note (and further investigation) as it contrasts with existing research and goes against the expectation that individuals' racial identities may play an important role in their life courses, and the way they interact with the police. Gaining a greater understanding of the thought processes of individuals, and how they decide their preferences for policing is one area where this research could be improved through the use of more focused qualitative research.

9.4 Does Policing Preference Vary Depending on Borough Characteristics?

The analysis presented in Chapters Seven and Eight shows clear evidence that policing preferences vary across London. Mapping policing preference at borough level shows that respondents who live in particular areas of the city may hold similar preferences for police activity (as predicted by Hypothesis 4 in Chapter 2). In particular, it appears that greater importance is attached to policing by those in the east of the city. The correlations and OLS regression models presented in Chapters Seven and Eight largely support the view that aggregated policing preference varies between boroughs in a way consistent with the proposition that individuals take cues from their surroundings when identifying the threats they face and that this influences the level, and type, of policing they prefer. For instance, a preference for a high level of local policing (membership of the "Do Everything", "Visible Policing and Education Plus" and "Visible Policing and Threatening Issues" groups) appears to be more likely in areas where residents perceive a high level of neighbourhood problems, feel less safe after dark, are dissatisfied with their local area in general or are more fearful of crime. Similarly, those areas in which population turnover is relatively low, increasing the chances for collective efficacy and informal social control to develop, are associated with a reduced desire for high levels of policing.

One major conclusion of this thesis is to be found in the analysis reported in Tables 7.15 and 8.16, which show that introducing borough level explanations alongside differences between respondents does not greatly affect the nature of the individual level relationships identified. Instead, introducing the borough level variables adds to the explanatory value of the models, suggesting that neighbourhood context may play an additional role in explaining why certain individuals favour particular mixes of policing. The finding that many borough level relationships remain after differences between respondents are controlled for helps to allay fears that the previous evidence relating policing preference to borough level characteristics was an artefact of an aggregation effect.

In general, the explanations associated with most of the relationships identified at a borough level reflect those identified at the respondent level. For instance, an individual who has moved address in the last twelve months may feel less integrated into their local community, feel less confident about the level of informal social controls and may compensate for this through a desire for higher levels of policing. Equally, respondents who live in areas of high population turnover (percentage of population who moved in the previous twelve months) are likely to hold similar opinions as they might perceive their community as more fragmented, irrespective of how long they personally have lived in an area. However, the relationships relating social classes to preferences for local policing provide a good example of why it can be important to consider both borough level and respondent level relationships in order to develop a more complete understanding of the dynamics of the public's preferences for policing. Table 8.16 suggests that respondents from lower social classes will prefer less policing in their local area. However, less policing is also requested by respondents who live in an area where the "average" social class is higher. These two findings should not be considered at odds with each other. Respondents in lower social class may favour less policing, as a result of how they often hold less favourable opinions of the police. However, areas where those from lower social classes live are often associated with higher levels of neighbourhood problems. Therefore, those living in more "well off" areas will probably perceive a lower need for the police to address issues within their local area and so request less policing. Taken as a whole, the analysis of how variations in preferences for policing may be related to differences between boroughs appears to offer support for Hypothesis Four in Chapter Two which argued, "In evaluating the role of the police, individuals will take cues from the situation in which they live. Preferences for policing will therefore vary between areas".

9.5 How Important are Borough Level Factors in Shaping Preferences Towards Policing?

The conclusion that differences between boroughs have a significant impact on policing preference, even after differences between respondents are considered, marks an interesting finding. However, in many cases within the social sciences,

neighbourhood level factors have been found to have relatively little impact on outcomes relative to individual level explanations (for example, Mason, 1991, p231 and Mitchell et al 1998). While the relationships identified at a borough level appear to add to the substantive findings of the models presented, it is a valid question to ask how much they add to the explanatory power of a model and how important they are relative to the relationships identified at the respondent level. As noted in Chapter Four, the relatively small number of boroughs included in this analysis means that it was not possible to run complete multilevel models including all the explanatory factors considered in Chapters Seven and Eight. For this reason it is not possible to provide a definitive answer as to the importance of borough level factors in shaping an individual's preferences for policing. This remains an area which requires further investigation, a point which will be returned to below.

Two pieces of evidence can however be presented suggesting that the impact of borough level factors may be more significant in explaining patterns of preference for local policing than patterns of preference for city-wide policing. This finding is consistent with the expectation that individuals react rationally to their social context when shaping their preferences towards policing because it would be reasonable to pay greater attention to local surroundings when considering preferences for local policing (as suggested by Hypothesis 5 in Chapter 2). Firstly, a comparison of the borough level regression models (Tables 7.10 and 8.11) suggests that the factors considered in this thesis do a much better job of explaining the borough level distribution of preferences for local policing than for city-wide policing (as shown through a comparison of the adjusted r-squared values). This conclusion is far from decisive as it takes no account of the possible influence of respondent level factors, but it does at least suggest that when considered at an aggregate level, preferences for local policing follows a more discernable, and explainable, pattern than do preferences for city-wide policing.

Secondly, the models in Appendix 8.1 suggest that the relative variance accounted for at a borough level is greater when considering the distribution of preferences for local rather than city-wide policing. These models are "null" models, which means they do

not include any explanatory factors. Despite the lack of explanatory variables, null models give a strong indication as to the likely importance of the different levels of explanation (Snijders and Bosker, 1999, p46). Therefore, the finding that approximately twice as much variation can be attributed to the borough level when modelling preferences for local policing provides further evidence to support the expectation that borough level differences may have a greater influence on a respondent's preferences for local policing.

9.6 Implications for Policing

The development of operational priorities within policing is a complex process, involving many competing demands. Day-to-day policing is largely reactive, devoting a high proportion of resources to dealing with incidents as they become apparent. For instance, if a member of the public contacts them having experienced crime. However, moves towards proactive policing have increased in recent years with a growing amount of police resources being targeted towards addressing pre-planned objectives. Where decisions are being made around the proactive deployment of resources, these are often the focus of intense debate involving competing interests. The data on which this analysis was based represents only one source of many sources of information used by the Metropolitan Police when attempting to identify, and address, public concerns. Other formal channels of communication used to gather information about community concerns include meeting with community leaders, provision for public drop-in sessions and public meetings across London, and the identification of a specific link between members of the Metropolitan Police Authority (the major strategic planning body for policing within London) and particular London boroughs (a relationship akin to that between an MP or council member and their constituents).

Reiner (2000, pp7-12) argues that, while decisions around policing priorities are most often driven by operational concerns, they often have a strong political dimension (quite beyond politicians making direct representations to the on behalf of those they represent). As in many areas of the public sector, recent decades have seen a growing

need for the police to address targets, and policy initiatives, developed by government (Jones, 2003). This concern would appear particularly pressing with regards to the policing of London given its role as a capital city, and the significant position occupied by the Metropolitan Police within UK policing more generally. In addition, the role of the police places them at the centre of broader political debates around the relationship between citizens, the state and the role of authority (Reiner, 2000, p8)

This backdrop of competing operational requirements, interests and information sources means that the possible impact of this research on policing is likely to be very different from how similar research may be used by a private sector organisation (where identification of particular preferences amongst different segments of a target marked may be expected to have a direct impact on how a product is delivered to market). Instead, the analysis presented previously should be seen as one source of evidence to be considered when decisions about police-community interaction and policing priorities are being made. In this respect, it is possible to identify several distinct ways in which the findings of this research may enter the broader process of ensuring the police address the needs of the communities they serve.

Firstly, and perhaps most importantly, the finding that it is possible to identify distinct groups of respondents who express differing priorities for policing (and the finding that policing preferences vary depending on respondents' characteristics) reflects the long-standing argument that it is simplistic to talk of the police serving the public as they actually serve multiple publics, and need to develop communication mechanisms to interact with different groups (Smith, 1983, pp392-305, Jones and Newburn, 2001). Therefore, while the Metropolitan Police already employ a wide range of approaches to engage with different groups across London, it is important that these efforts are continually reviewed with a view to gaining as many alternative views as possible. In addition the finding that public concerns and priorities vary between localities provides further evidence of the need for the police to ensure strong links between police officers and the communities they serve with devolved decision making to allow police officers to respond to the concerns of local residents.

While the police employ many mechanisms to identify issues of public concern, large scale surveys, such as PAS, have an important role to play in discussions around public attitudes towards policing. One concern around the use of some mechanisms to identify public concerns (for instance, contacts with community leaders, drop in sessions or public meetings), is that while the information collected may be representative of those involved, it may not represent the views of the wider public. Those people who feel engaged enough to make an effort to interact with the police, and express an opinion, could be expected to have different life experiences and priorities, compared with the wider population. In such situations, data such as PAS provides one check against the risk of the priorities being chosen on the basis of the preferences of a vocal, or engaged, minority.

The substantive findings identified in this analysis (around which groups within London favour particular priorities) may be seen as providing a useful foundation on which to develop further discussions with the public around their expectations of the police. An more detailed understanding of the priorities of specific groups, or areas, should prove useful in allowing the police to target information about specific initiatives, aimed at addressing particular concerns, towards distinct groups of people or areas of London. It may be expected that a more focused dissemination of information around what the police are doing, highlighting how they are addressing local concerns, will help foster better relations with communities and therefore, increase the level of future public engagement.

A quantitative understanding of the broad attitudes held by different groups within society also provides the police with a starting point for further in depth discussions. For instance, it could be that the findings presented in this analysis could be used to create vignettes of typical priorities for policing amongst those with particular characteristics, or who live in particular areas. Such examples could provide a useful tool for breaking the ice at the start of other initiatives aimed at increasing police-public interaction, for instance public meetings or focus groups.

Finally, this research demonstrates that the community surveys such as PAS, can provide a treasure chest of information around the public's perceptions of crime and policing. The rich picture presented over the previous four chapters serves an illustration of how the application of more analytical techniques can help to provide a stronger evidence base on which to, either take decisions, or begin further efforts at data collection (in contrast to more descriptive analysis concentrating on the overall level of importance attached to different policing tasks or providing a breakdown of priorities by broad socio-economic group). This should provide an incentive for those collecting the data to develop the analytical approaches they employ, or to develop strategic partnerships with bodies, such as universities, in order to benefit from their existing pool of knowledge.

9.7 Limitations and Possible Directions for Future Research

While the analysis presented in this thesis goes a long way to addressing the issue of whether or not an individual's preferences for policing are influenced by the nature of their local area, it is possible to identify a number of limitations which might be addressed in future research.

9.7.1 The Lack of Full Multilevel Modelling

One problematic aspect of the models presented is that those linking policing preferences to both the characteristics of the respondent and the borough in which they live do not provide an estimate of the relative importance of the two levels of explanatory factors. This means that it is not possible to reach a definitive conclusion about how important neighbourhood issues are in shaping an individual's preferences for policing.

This issue could be addressed by recreating the later analysis from Chapters Seven and Eight (Tables 7.15 and 8.16) within a full multilevel framework; rather than

simply correcting standard errors to account for the non-independence of responses. Using a full multilevel model would also allow the impact of individual level explanatory factors to vary across boroughs. Such an approach would help to identify any examples of interactions between individual and borough level explanatory factors, highlighting where neighbourhood context may have an indirect effect on an individual's preference for policing. For instance, if it is the case that older respondents attach greater importance to policing as a result of an increased fear of crime, then it might be that the differences between young and old respondents will vary between areas depending on how the social context contributes to feelings of insecurity (e.g. through differences in the perceived level of anti-social behaviour). These indirect effects of social context are less researched within social sciences. However, considering them in future models could be expected to give a greater understanding of the dynamics that underpin an individual's perception of priorities for policing.

9.7.2 The Choice of Unit Used to Represent a Respondent's Neighbourhood

The principal reason for not employing full multilevel modelling in this thesis was, of course, the decision to use London boroughs to represent where an individual resides. This meant there were only 32 units at the neighbourhood level (level two of the multilevel structure), a number of cases which could be expected to limit the reliability of any models estimated.

The decision to use boroughs (discussed in Chapter 3) reflects the fact that, at the time of the survey, they were a key geographic unit for policing policy within London (since this time there has been a further shift downwards towards "neighbourhood policing teams"). Additionally, boroughs often play an important part in life within London with many people identifying with their borough as representing the area where they live. Finally, using boroughs, rather than any smaller geographic unit, allowed for individual level indicators to be reliably aggregated to an area level.

It could be argued that the usefulness of boroughs for studying the impact of social context is limited by how conditions can vary substantially within a borough. For instance, when considered at a ward level, the proportion of the population who are from Non-White ethnic backgrounds within Camden varies from around 15 percent to in excess of 40 percent. The choice of geographical unit may well influence the apparent impact of contextual measures on an individual's preferences for policing. It could be expected to define which contextual variables can be employed (some Census variables may not be available for low level units due to confidentiality constraints) and the reliability of some of the indicators which can be used (those based on aggregated survey responses are reliant on a reasonable sample size being available within each area). The conclusions suggested in this thesis might therefore be strengthened if they were shown to hold when different geographical units were employed to represent a respondent's neighbourhood. Moving to smaller units could also be expected to increase the number of areas in the second level of the model and therefore open up the opportunity for more extensive multilevel modelling.

9.7.3 The Unique Nature of Policing in London

London's status as a capital city means that it faces different threats from much of the rest of the country; it could be argued that any conclusions reached in an analysis focused exclusively on London may not be applicable to other situations. A worthwhile extension to the work presented in this thesis would therefore be to apply the methods and logic used to data from other police force areas to see if the findings identified are replicated across different contexts.

The primary reason for focusing this analysis on London was one of data availability. No national survey currently exists which asks respondents about their preferences for policing at the level of detail which appears in the PAS dataset. For instance, the British Crime Survey regularly includes questions about a respondent's overall confidence in the police, and for those who were victims of crime, questions whether they reported this to the police and how well they perceived the police as having dealt

with the incident. However, it does not include the same range of questions about priorities for policing which were present in the PAS data.

The push for increased local accountability and responsiveness which has developed within policing over recent years has been accompanied by a growth in the use of public attitude surveys as a means of evaluating policing policy. This means that data similar to those in the PAS dataset should become increasingly available for other police forces across the UK. Although the questions employed by different police forces may not be directly comparable to those considered in this thesis, conducting a similar analysis on samples drawn from different police forces could at least provide some insight into the generalisabilty of the overall arguments presented.

9.7.4 The Time-Specific Nature of the Analysis

A further extension to the dataset used in this investigation could involve considering surveys from different years to see if the conclusions reached are consistent over time. The PAS dataset has been collected annually since 1983, and the questions asked have remained largely consistent over time. This opens up the possibility of creating a repeated cross-sectional dataset as described by Firebaugh (1997). Considering how preferences for policing have varied over time could provide an insight into how macro level issues, such as changes in policing policy, or the increased attention focused on terrorism after the attacks of September 11th and 7/7, have influenced the public's priorities for policing.

9.7.5 Missing Explanatory Factors

It is possible to identify several factors which might influence an individual's priorities for policing which were not considered in this analysis, for instance a respondent's level of education. Where respondent level factors were not included in the analysis, this was because it was not possible to identify suitable indicators within the PAS dataset. It is likely that, were this analysis to be repeated with datasets from other police forces, some of these missing variables could be considered. The PAS

dataset has many strengths, combining a large sample size with detailed geographic identifiers and a wide range of questions which could be used to represent both preferences towards policing and possible explanations for differences in preferences. However, conducting a similar analysis on datasets including some of the variables missing from the current analysis is only likely to strengthen the certainty with which any conclusions can be supported.

Potentially the most important exploratory factors missing from the models in this thesis relate to how an individual might be expected to form preferences for policing when they have little direct experience of the police or knowledge of which policing tasks might most effectively address their needs. Firstly, there is a lack of variables relating to the arguments of Tyler (2004) that an individual's attitudes towards the police are most influenced by their perceptions of how fairly the police behave. If the procedural fairness hypothesis is correct, then it could be expected that a perception that the police act fairly will be accompanied by seeing the police as a useful and approachable service. Similarly, those who see the police as acting unfairly, and lacking legitimacy, will probably wish to see less policing, particularly in their local area. To some extent the inclusion of a variable which relates to whether a respondent has experienced conflictual contact with the police helps to address this point, especially as the relationships involving this variable appear to reflect the above expectation. However, possibly as a result of the questions used, conflictual contact is extremely rare within the dataset and it might therefore be beneficial to include a more general measure of how much legitimacy respondents believe the police have. The work of Jackson et al (2007) gives some idea of how such an indicator could be constructed using the questions in the PAS dataset (they use data from the 2005-06 PAS dataset). Although responses on the measures developed by Jackson et al appear to show a substantial skew towards the view the police are highly legitimate (2007, p7), the inclusion of such variables in any future models might shed further light on how respondents' general perceptions of the police relate to their preferences for policing.

Many researchers have argued that, in the absence of direct interaction with the criminal justice system, the public take cues from media coverage of particularly visible incidents when forming opinions about expectations and performance (Surette, 1998, and Roberts and Hough, 2005, p33). It has also been argued that providing the public with information can influence the attitudes they hold (Salisbury, 2004). An understanding of which sources of information respondents consider when forming their preferences towards policing, and how the use of different information sources may influence a respondent's attitude, could be of interest to policy makers and police officers if it helps to highlight avenues which they could use to more effectively communicate with the public.

Future studies might therefore wish to consider if a respondent's preferences for policing are related to the sources of information they say they have used to form their opinions. For instance, is there a difference between those who read tabloid and broadsheet newspapers once other differences are controlled for? Or, is there a difference between those who see television as their main source of information in contrast to those who regularly read newspapers?

9.7.6 Limitations of the Dependent Variables Employed

This analysis centres on the importance individuals say they attach to different policing tasks as measured via a questionnaire. As discussed in Chapters Two and Three, great care must be taken when trying to use survey responses to understand the public's preferences for policing. If due care is not taken, there is a possibility that any patterns found within the data will reflect the nature of the survey instrument used rather than respondents' attitudes towards policing. For instance, as shown in Chapter Five, without the imposition of constraints, many respondents are likely to simply attach a high level of importance to all policing functions. It is therefore possible to argue that their responses do not reveal which policing priorities they are most concerned about. Furthermore, responses which portray all tasks as highly important are of limited use for policy discussions, as policy decisions must be taken within the context of limited resources.

As discussed in Chapters Two, Three and Five, combining the level of importance respondents attach to different policing tasks with indicators of how well respondents believe the police currently undertake the same task may provide a measure of where respondents believe the police are most under-performing. This analysis will highlight tasks where the police should concentrate resources to best meet public expectations. Unfortunately, the level of missing data relating to respondents' ratings of how well the police currently perform different tasks means that the use of this approach was not an option in this thesis.

An alternative approach to improving the appropriateness of survey responses to measure preferences towards policing could be to introduce constraints on the answers a respondent is able to provide. This would prevent respondents from attaching a high importance to all the tasks they are asked to consider, and make their responses more applicable to real world policing, which is preformed using a finite level of resources. The easiest way to achieve this would be to follow the lead of Smith (1983) and FitzGerald (2002) highlighted in Chapter Two. For example, when considering a question similar to that used in this thesis to measure preferences for local policing, respondents could be limited in the number of tasks they could identify as important (for instance five out of the twelve local policing tasks considered in Chapter Six). This would force them to indicate which policing tasks they most favour.

This basic method of introducing constraints shares its objectives with the method of "priority evaluation" outlined by Hoinville and Berthoud (1970) and applied to demand for local public services by Piperno and Santagata (1987). In essence, this approach would see respondents given a notional budget to spend, and information about the costs of different policing tasks. Based on this information they are asked to select the mix of police services they would wish to see, without exceeding the budget. Hence, if they wish to see the police concentrate resources on one task they are required to identify other tasks which would receive less attention.

While the dependent variables within this thesis concentrate on expressions of how much importance respondents attach to different policing tasks, an alternative approach may be to consider which policing services the public actually use. One example of work which has considered whether the use of police services varies depending on neighbourhood context is Hope (2008). This analysis looked at calls to the police in Lancashire to assess how the level of calls relating to incidents of violence and property crime varied between different areas. Although this work gives an interesting insight into how demand for policing may vary between areas, it is important to note that both the dependent and explanatory variables were measured at an electoral ward level. Therefore, unlike the analysis in this thesis, this work does not consider how outcomes vary between individuals. A further addition to the work of Hope, which would broaden its scope to more accurately reflect the police's day-to-day work (and the tasks considered in this thesis), would be to also consider calls with regards to non-crime related policing services.

Given that it is possible to raise several concerns about the dependent variables employed in this thesis, it seems reasonable to suggest that future work in this area should consider a range of different indicators of preferences for policing. This should help lend further support to any conclusions reached. However, it is important to set the limitations discussed above against the benefits of using the PAS dataset, which allowed analysis to be undertaken on a large sample and allowed respondent's neighbourhoods to be easily identified.

9.7.7 The Lack of Detail about the Causal Mechanisms which Underpin Preferences for Policing

The analysis presented in this thesis has identified several groups of respondents who appear to hold different preferences for policing. It is also suggested how the likelihood of a respondent appearing in one of these preference mixes varies depending on the characteristics of the respondent and the borough in which they live. One difficulty with statistical analysis, such as that shown in this thesis, is that while

it may identify relationships between different variables it does not "explain" the causal mechanisms which underpin these relationships. Hence, the results presented do not necessarily elucidate why particular respondents may hold particular preferences. For many of the relationships identified suggestions were made as to possible explanations which could link characteristics to preferences. Considering all the research reviewed in Chapter Two, and the results presented within this thesis, it can be hypothesised that many of the relationships identified are consistent with the view that a respondent's prioritises for policing reflect the perceived role they believe the police play within their daily lives. However, it is possible to pinpoint several relationships within Chapters Seven and Eight which are not compatible with such an individualistic explanation. Additionally, while many of the statistical results may appear consistent with such an explanation, this does not provide definitive proof that respondents were thinking along these lines when answering the questionnaire. The development of a fuller understanding of why particular respondents prioritise particular forms of policing is likely to require more in-depth information from the individuals concerned. One possibility is that quantitative analysis, similar to that presented in this thesis, could be supplemented with qualitative interviewing involving a subset of respondents to try and undercover why they have indicated a particular mix of preferences. This interplay between quantitative analysis and qualitative approaches is well illustrated by Laub and Sampson (2003) in their study of the factors associated with patterns of offending over the life-course. In this research, respondents were classified into groups on the basis of quantitative data concerning conviction histories (using similar techniques to those employed in Chapters Five and Six of this thesis). A sub-section of the sample, drawn from the different groups identified, were then subject to in-depth research using qualitative techniques to try and understand the factors which they associated with their offending. The wider applicability of these explanations was then investigated through a further quantitative analysis of the whole sample.

9.8 Summing Up

Given the wide range of limitations and criticisms discussed, it might be tempting to take a pessimistic view as to the worth of the analysis presented. However, many of the issues highlighted represent ways in which the work undertaken could be further developed, rather than problems which fatally undermine the existing analysis.

This thesis has achieved both of the major objectives envisaged in the introduction. It has shown that individuals' preferences for policing appear to be related to the social contexts in which they live, and that the use of modern statistical methods, in particular latent class analysis, can help to provide new insights in analysing the data collected in large-scale public attitude surveys.

In addition, the analysis presented here offers a commentary on the limitations of dependent variables used in much existing work. It very strongly suggests that indicators which consider only one dimension of preference (either amount of policing or support for particular policing tasks) are overly simplistic. A more complete understanding of public preferences can only be achieved by considering an indicator which involves both the overall importance attached to policing and identifies those policing tasks a respondent sees as being most important. Many of the results presented indicate that an individual's preferences for policing may, at least to some extent, be related to a respondent's beliefs about the position of the police within society and the role the police may play in their day-to-day life.

Decisions to deploy police resources are often responsive to specific incidents rather than a calculated response to preferences expressed by the public. The kind of analysis presented in this thesis is therefore likely to have very limited, if any, influence on decisions about how the police operate, particularly when compared to how commercial companies may be expected to respond to similar market research. However, greater knowledge of how the public believe the police should operate, and how these attitudes vary across society, can be expected to be helpful for starting a discussion between the police and public about policing priorities. In line with the

work reviewed at the beginning of Chapter Two, it is to be hoped that such a dialogue will increase the public's understanding, and support, for the police.

Taken as a whole, and despite the inherent limitations of the dataset, this thesis has presented a more in-depth analysis of the preferences for policing than any previously available. It is the author of this study's wish that the findings presented here and the ideas highlighted for future research will be of interest to those most concerned with trying to develop and maintain public support for the police for, as Sir Ronnie Flanagan (2008, p5) argues,

> "Policing is far too important to be left to the police alone. It is a public service and one that can only be effectively carried out with the support and consent of the public. Using and developing this engagement with the public is one of the most important challenges in modern policing and it is a challenge that must be met at all levels.
>
> At the local level, the police service needs to engage with communities to understand their needs and respond to them."

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